

2019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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2019

Fresher ' s Research Training Program (Fresher ' s Research Training Program)

Grades	1 grade	Semester (or Term)	Spring	Subject	Compulsory (Basic)	Credits	1
Methods	Lecture	Total time	16	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Dean, Graduate School of Dentistry						
Instructor(s)	Hidaka K., Ansai T., Morimoto Y., Dean , Graduate School of Dentistry, Seta Y., Ariyoshi.W, Takeuchi H., Nakahara T., Nakashima H., Kakudate N.						

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 understand the laws and regulations and various guidelines for scientific research can respond
2. 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
3. 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 ”
4. 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
5. You can explain the critical medical ethics as medical professionals
6. You can understand the standard infection prevention required in practice to understand the basic procedure of nosocomial infection prevention and carry out them

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	60%
report and/or mini-exam	40%

Etc

2019

Fresher ' s Research Training Program (Fresher ' s Research Training Program)

Grades	1 grade	Semester (or Term)	Spring	Subject	Compulsory (Basic)	Credits	1
Methods	Lecture	Total time	16	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Dean, Graduate School of Dentistry						
Instructor(s)	Hidaka K., Ansai T., Morimoto Y., Dean , Graduate School of Dentistry, Seta Y., Ariyoshi.W, Takeuchi H., Nakahara T., Nakashima H., Kakudate N.						

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Lecture	Contents	Methods	Instructor	Preparation-Review
1	Ethics in scientific research I Learn an overview of the laws, regulations and various guidelines for epidemiological studies and clinical research.	Lecture	Hidaka K	Review of lecture
2	Industry-university cooperation Learn about industry-university cooperation in order to take advantage of the research at the university in the industry.	Lecture	Extramural Lecturer	Review of lecture
3	Animal experiments and genetic recombination Learn 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
4	Handling of poisonous and deleterious substances, management of the laboratory Learn 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
5	Ethics in scientific research II	Lecture	Nakahara T.	Review of lecture
6	Infection control in medical care activities Learn a nosocomial infection control and medical accident measures that are required in medical care activities.	Lecture	Nakashima H.	Review of lecture
7	Literature search and use of library Learn how to use the library, and practice the data retrieval methods using PubMed. Bioethics Learn about problems of bioethics and medical ethics.	Lecture	Anasai T. Seta Y.	Read the textbook prior or post lecture
8	Evidence-Based Dentistry Learn basic concepts of EBM/EBD and the steps for implementation	Lecture	Kakudate N.	Review of lecture

2019

Seminar in Biomaterials (Basic Course) (Seminar in Biomaterials (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H.						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						

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 material
 Casting of dental alloys, especially gold alloys
 Knowledge and handling of dental porcelain and fine ceramics
 Material test methods
 Preparation of test piece and practice of three point loading test
 Preparation of test piece and practice of shear test
 Preparation of test piece and practice of bonding test
 Using casting machine in response to dental alloy
 Knowledge and handling of component analysis

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
contents or the research report	80%
meeting and techniques of presentation	20%

Etc

Related text books

2019

Seminar in Biomaterials (Basic Course) (Seminar in Biomaterials (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H.						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						

Contents

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

2019

Seminar in Biomaterials (Advanced Course) (Seminar in Biomaterials (Advanced Course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H.						
Instructor(s)	Nagamatsu Y., Shimizu H., Ikeda H.						

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 material

Learning the principles and using of the method of measurement equipment that is required for the analysis

Fabrication of test specimens and operating measurement equipment in the preliminary experiment

Calculation of the data obtained in the experiment and graphing and presentation

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
contents of the research report meeting	80%
techniques of presentation	20%

Etc

2019

Seminar in Biomaterials (Advanced Course) (Seminar in Biomaterials (Advanced Course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H.						
Instructor(s)	Nagamatsu Y., Shimizu H., Ikeda H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Fabrication of test specimens I Immediately after taking impression	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
2	Fabrication of test specimens II After disinfection of the impression	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
3	Fabrication of test specimens III after leaving impression	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
4	Fabrication of test specimens IV under a variety of conditions	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
5,6	Measurement of the dimensional precision of cast specimens	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
7-9	Measurement of the surface roughness of cast specimens	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
10	Measurement of the shape of cast specimens	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
11,12	Statistical analysis and graphs of all data	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
13,14	Creating a presentation	Practice	Shimizu Nagamatsu Ikeda	Review of lecture
15	Research report meeting	Practice	Shimizu Nagamatsu Ikeda	Preparation of presentation

2019

Dental Biomaterials (Dental Biomaterials)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H.						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						

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 English
 Understanding the difference between Japanese and English methods of representation
 Learning how to study Biomaterials Sciences
 Learning the latest trends in dental materials from a clinical point of view

Textbooks

Clinical Aspects of Dental Materials
 Pub. Journals e.g. Dental Materials Aut. M. Gladwin, M. Bagby

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
contents of the research report meeting	80%
techniques of presentation	20%

Etc

2019

Dental Biomaterials (Dental Biomaterials)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H.						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Gathering information from the English research papers Training of English thinking of clinical trends in the dental materials	Practice	Shimizu Nagamatsu u Ikeda	Review of lecture

2019

Advanced Biomaterials (Advanced Biomaterials)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						
	Shimizu H., Nagamatsu Y., Ikeda H.						

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 literature
- 2 Explaining the history and current status of the area
- 3 Critical evaluation of literature
- 4 Writing an introduction
- 5 Drawing your own research plan with references

Textbooks

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
contents of the research report	80%
techniques of presentation and attitude	20%

Etc

2019

Advanced Biomaterials (Advanced Biomaterials)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						
	Shimizu H., Nagamatsu Y., Ikeda H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Gathering articles 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	Shimizu H Nagamatsu Y Ikeda H	Preparation and review of practices (Preparation of handouts and correction of matters pointed out)

2019

Advanced Biomaterials (Advanced Biomaterials)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						
	Shimizu H., 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 field
- 2 Developing a new research plan in the field
- 3 Explaining the relationship between the basic knowledge of the field and clinical practice

Textbooks

The faculty member in charge prepares.

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Knowledge and proficiency	60%
Aggressiveness	40%

Etc

2019

Advanced Biomaterials (Advanced Biomaterials)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Shimizu H						
Instructor(s)	Shimizu H., Nagamatsu Y., Ikeda H.						
	Shimizu H., Nagamatsu Y., Ikeda H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
1-15	Gathering information from faculty lecture Learning presentation method	Practice	Shimizu H Nagamatsu Y Ikeda H	Review of lectures and practice

2019

Anatomy (Basic course) (Anatomy (Basic course))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Anatomy (Basic course) (Anatomy (Basic course))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-2	experimental performance in the lab	Lecture	Seta Toyono Nakatomi Kataoka	Review of lecture
3-4	The morphology of sensory organs (1): visual organ	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
5-6	The morphology of sensory organs (2): vestibulocochlear apparatus	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
7-8	The morphology of sensory organs (3): taste organ	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
9-10	The morphology of sensory organs (4): olfactory organ	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
11-12	Action potential	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
13-14	Neurotransmission :Synapse	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
15-16	Sensory neuron (1): photoreceptor cell	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
17-18	Sensory neuron (2): olfactory neuron	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
19-20	Sex hormone in nervous system	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
21-22	Sensory neuron (3): taste receptor cell	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
23-24	Taste receptors	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Anatomy (Basic course) (Anatomy (Basic course))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Lecture	Contents	Methods	Instructor	Preparation·Review
25-26	Development and differentiation of neuron	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
27-28	Development and differentiation of sensory organs	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
29-30	Sex hormone in taste organ	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Anatomy (Advanced course) (Anatomy (Advanced course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

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 RT-PCR
- (5) be able to carry out cell culture

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Anatomy (Advanced course) (Anatomy (Advanced course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-2	Introduction What is morphological analysis.	Introduction What is morphological analysis.	Seta Toyono Nakatomi Kataoka	Review of lecture
3-4	Preparing method of tissue section (1): Fixation	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
5-6	Preparing method of tissue section (2): Embedding tissue	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
-8	Preparing method of tissue section (3): Sectioning tissue using paraffin block	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
9-10	Preparing method of tissue section (4): Sectioning tissue using frozen block	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
11-12	Immunohistochemistry (1): Apply first antibody	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
13-14	Immunohistochemistry (2): Apply second antibody	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
15-16	Fluorescence microscope and fluorescence observation method	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
17-18	RT-PCR (1): RNA preparation and cDNA synthesis	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
19-20	RT-PCR (2): Prepare gene-specific primers and PCR	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
21-22	Cloning gene fragment: TA cloning	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
23-24	in situ hybridization (1): Probe preparation	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Anatomy (Advanced course) (Anatomy (Advanced course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Lecture	Contents	Methods	Instructor	Preparation·Review
25-26	in situ hybridization (2): Pre-treatment of section and antibody visualization of digoxigenin	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
27-28	Cell culture (1): prepare culture medium	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
29-30	Cell culture (2): cell culture method	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Anatomy Practice (Basic course) (Anatomy Practice (Basic course))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

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 RT-PCR
- (5) be able to carry out cell culture

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Anatomy Practice (Basic course) (Anatomy Practice (Basic course))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Introduction What is morphological analysis.	Lecture	Seta Toyono Nakatomi Kataoka	Review of lecture
2-3	Cell culture (1): prepare culture medium	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
4-5	Cell culture (2): cell culture method	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
6-7	Preparing method of tissue section (1): Fixation	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
-9	Preparing method of tissue section (2): Sectioning tissue using paraffin block	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
10-11	Immunohistochemistry: Detection target protein in section.	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
12-13	RT-PCR (1): RNA preparation and cDNA synthesis	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
14-15	RT-PCR (2): Prepare gene-specific primers and PCR	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Anatomy Practice (Advanced course) (Anatomy Practice (Advanced course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

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
- (4) be able to carry out cell culture
- (5) be able to carry out luciferase assay

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Anatomy Practice (Advanced course) (Anatomy Practice (Advanced course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Introduction	Lecture	Seta Toyono Nakatomi Kataoka	Review of lecture
2-3	PCR Cloning (1): PCR	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
4-5	PCR Cloning (2): TA cloning	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
6-7	PCR cloning (3): Transformation of plasmid DNA into E coli	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
8-9	Transfection (1): Introduction of gene transfer technology	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
10-11	Transfection (2): Expression vector transfect into cultured cells	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
12-13	Luciferase assay (1): Introduction of luciferase assay	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
14-15	Luciferase assay (2): Promotor analysis using luciferase assay	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Anatomy Practice (Anatomy Practice)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Course Description

【Language】 English and Japanese

The aim of this course is help students acquire the necessary skills and knowledge needed to achieve student ' research.

Attainment Objectives

The goals of this course are to

- (1) be able to construct research plan,
- (2) be able to understand and explain research methods
- (3) be able to discuss data from results

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Anatomy Practice (Anatomy Practice)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation- Review
1	Introduction	Lecture	Seta Toyono Nakatomi Kataoka	Review of lecture
2-3	Cell culture of T1R1 expressing cell (1): Cloning T1R1 gene	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
4-5	Cell culture of T1R1 expressing cell (2): Construction of T1R1 expression vector	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
6-7	Cell culture of T1R1 expressing cell (3): Transfection expression vector into cultured cells	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
8-9	Cell culture of T1R1 expressing cell (2):	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
10-11	Promotor assay of T1R1 gene (1): Construct reporter vector for T1R1 gene	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
12-13	Promotor assay of T1R1 gene (2): Promotor analysis using luciferase assay	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
14-15	Review	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Anatomy Advanced course (Anatomy Advanced course)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Choose a topic and prepare for presentation	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	100%

Etc

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

2019

Anatomy Advanced course (Anatomy Advanced course)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Choose a topic and prepare for presentation	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						
	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Understand the article and introduce it including the background of the study	Lecture and Practice	Seta Toyono Nakatomi Kataoka	Choose a topic and prepare for presentation

2019

Head and Neck Dissection Course (Head and Neck Dissection Course)

Grades	1 ~ 4	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kataoka S.						
Instructor(s)	Kataoka S., Seta Y., Nakatomi M., Toyono T.						

Course Description

【Language】 English and Japanese

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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Usual performance score	60%
quality of performance in the dissection	40%

Etc

2019

Head and Neck Dissection Course (Head and Neck Dissection Course)

Grades	1 ~ 4	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kataoka S.						
Instructor(s)	Kataoka S., Seta Y., Nakatomi M., Toyono T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-2	Introduction	Lecture	Kataoka, Seta, Toyono, Nakatomi	Related textbooks
3-4	Skull	Lecture Practice	Kataoka, Seta, Toyono, Nakatomi	Related textbooks
5-15	Head and Neck Dissection	Practice	Kataoka, Seta, Toyono, Nakatomi	Related textbooks

2019

Physiology Practice (Physiology Practice)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S. 氏原 泉						

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, 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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
course attendance	30%
report	70%

Etc

2019

Physiology Practice (Physiology Practice)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S. 氏原 泉						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Orientation	Lecture	Ono Hitomi Ujihara	Review of practices
2-4	Animal behavior analyses To learn animal handling and behavioral analyses	Practice	Ono Hitomi Ujihara	Review of practices
5-7	Brain slice preparation To learn how to make slice preparation of theist centers and electrophysiological recordings	Practice	Ono Hitomi Ujihara	Review of practices
8-10	Making of oral ulcer model To learn how to make orofacial pain models and its evaluation of pain	Practice	Ono Hitomi Ujihara	Review of practices
10-15	Analyses of signal transduction in pain	Practice	Ono Hitomi Ujihara	Review of practices

2019

Physiology Practice (Physiology Practice)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S. 氏原 泉						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
course attendance	30%
report	70%

Etc

2019

Physiology Practice (Physiology Practice)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S. 氏原 泉						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-3	Experiments for water drinking To learn how to inject drinking-inducible drugs and observe the drinking behavior	Practice	Ono Hitomi Ujihara	Review of practices
4-7	Salivary secretion To measure salivary secretion following injection of saliva-inducible drugs	Practice	Ono Hitomi Ujihara	Review of practices
8-10	Oral mucositis and pain To learn pain mechanism in oral ulcer model	Practice	Ono Hitomi Ujihara	Review of practices
11-13	Analysis of pain-related behaviors To observe behaviors following application of pain-inducible drugs	Practice	Ono Hitomi Ujihara	Review of practices
14-15	Analyses of signal transduction in pain To learn pain mechanisms	Practice	Ono Hitomi Ujihara	Review of practices

2019

Physiology Practice (Physiology Practice)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S.						
	氏原 泉						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
course attendance	30%
report/presentation	70%

Etc

2019

Physiology Practice (Physiology Practice)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S. 氏原 泉						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-2	Analyses of animal behaviors To analyze and consider behavioral results	Practice	Ono Hitomi Ujihara	Review of practices
3-4	Analyses of salivary secretion To analyze and consider results of salivary secretion	Practice	Ono Hitomi Ujihara	Review of practices
5-8	Analyses of pain signaling To analyze and consider results from pain models	Practice	Ono Hitomi Ujihara	Review of practices
9-15	Research presentation	Practice	Ono Hitomi Ujihara	Review of practices

2019

Physiology Division Colloquium (Physiology Division Colloquium)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hitomi S						
Instructor(s)	Ono K., Hitomi S., null						

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

Journals for presentation should be selected by each one.

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral presentations	70%
attendance	30%

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.

2019

Physiology Division Colloquium (Physiology Division Colloquium)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hitomi S						
Instructor(s)	Ono K., Hitomi S., null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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	Ono K Hitomi S Ujihara I	Pre- and post-reading of journals

2019

Molecular and Cell Biology Training Program (Basic Class) (Molecular and Cell Biology Training Program (Basic Class))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

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 prepare RNA or protein from tissue or cells.
4. You can understand the principles of the RT-PCR, and perform it.
5. You can understand the principles of the Western blotting, and perform it.

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
*1	100%

*1 Evaluate your presentation and content in the data at the meeting and interview.

Etc

You can use the protocols in our laboratory. If you would like to buy protocol books interested in, we suggest which one is best.

2019

Molecular and Cell Biology Training Program (Basic Class) (Molecular and Cell Biology Training Program (Basic Class))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Orientation An overview of this lecture, and to learn about the basis of molecular biology.	Lecture	Kokabu S	Review of lecture
3,4	Basis of cell culture I Cell handling How to prepare the culture media	Lecture practice	Kokabu S	Preparation about cell culture
5,6	Basis of cell culture II Cell passage Cell stock	Lecture practice	Kokabu S	Review about cell culture
7,8	How to handle mice I Basis of mouse handling Treatment with drugs Blood collection	Lecture practice	Kokabu S	Review about mouse handling
9,10	How to handle mice II Anesthesia for mice Preparation of thymocytes and bone marrow cells from mice	Lecture practice	Kokabu S	Review about the preparation of tissue and cells
11,12	How to handle mice III Preparation of primary osteoblasts Osteoclast differentiation	Lecture practice	Kokabu S	Review about the osteoblast or osteoclast culture
13,14	RT-PCR I Preparation of RNA from cells or tissue Measurement of RNA	Lecture practice	Matsubara T	Preparation about the principle of RT-PCR
15,16	RT-PCR II cDNA synthesis Primer design using computer soft	Practice	Matsubara T	Preparation about the principle of primer design
17,18	RT-PCR III PCR Agarose gel electrophoresis	Practice	Matsubara T	Review about the principle of RT-PCR
19,20	Real-time PCR I Principle of Real-time PCR Real-time PCR	Lecture practice	Matsubara T	Preparation about the principle of real-time PCR
21,22	Real-time PCR II Data analysis	Lecture practice	Matsubara T	Review about the data analysis
23,24	Western Blotting I Preparation of protein from tissue or cells Measurement of protein	Lecture practice	Matsubara T	Preparation about the protein preparation
25,26	Western Blotting II SDS-PAGE Transfer to PVDF membrane	Lecture practice	Matsubara T	Preparation about the principle of Western blotting

2019

Molecular and Cell Biology Training Program (Basic Class) (Molecular and Cell Biology Training Program (Basic Class))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Lecture	Contents	Methods	Instructor	Preparation-Review
27,28	Western Blotting III Blocking Reaction with 1st antibody Reaction with 2nd antibody	Practice	Matsubara T	Preparation about the protocol of Western blotting
29,30	Western Blotting IV Stripping Reblotting	Practice	Matsubara T	Review about Western blotting

2019

Molecular and Cell Biology Training Program (Middle Class) (Molecular and Cell Biology Training Program (Middle Class))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
*1	100%

*1 Evaluate your presentation and content in the data at the meeting and interview.

Etc

You can use the protocols in our laboratory. If you would like to buy protocol books interested in, we suggest which one is best.

2019

Molecular and Cell Biology Training Program (Middle Class) (Molecular and Cell Biology Training Program (Middle Class))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	PCR cloning I Gene cloning using PCR method Digestion of vector and PCR products with restriction enzyme	Lecture · practice	Kokabu S	Preparation about gene cloning
3,4	PCR cloning II Dephosphorylation of vector by ALP Ligation	Lecture · practice	Kokabu S	Preparation about ligation
5,6	PCR cloning III How to prepare competent cells Transformation	Lecture · practice	Kokabu S	Preparation about transformation
7,8	PCR cloning IV Pick up colonies Mini-scale culture	Lecture · practice	Kokabu S	Review of the previous step
9,10	PCR cloning V Mini-preparation Agarose gel electrophoresis	Lecture · practice	Kokabu S	Preparation about mini-scale culture
11,12	PCR cloning VI Midi-preparation Purification of plasmid	Lecture · practice	Kokabu S	Preparation about Midi-prep
13,14	Gene function analysis I Types of gene transfer Gene transfer using lipofection method	Lecture · practice	Kokabu S	Preparation about gene transfer
15,16	Gene function analysis II Point mutation based on PCR Screening	Lecture · practice	Matsubara T	Preparation about gene transfer
17,18	Gene function analysis III Principle of luciferase assay Measurement of luciferase activity by luminometer	Lecture · practice	Matsubara T	Preparation about luciferase assay
19,20	Gene function analysis IV Generation of dominant negative form or constitutive active form for gene transfer	practice	Matsubara T	Preparation about dominant negative form and constitutive active form
21,22	Immunoprecipitation I Preparation of protein from cells Measurement of protein Immunoprecipitation	Lecture · practice	Matsubara T	Preparation about handling of protein
23,24	Immunoprecipitation II SDS-PAGE Transfer to PVDF membrane Blocking	practice	Matsubara T	Preparation about immunoprecipitation

2019

Molecular and Cell Biology Training Program (Middle Class) (Molecular and Cell Biology Training Program (Middle Class))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Lecture	Contents	Methods	Instructor	Preparation-Review
25,26	Immunoprecipitation III Reaction with 1st antibody Reaction with 2nd antibody	practice	Matsubara T	Review about immunoprecipitation
27,28	Tagged I Kind and principle of tag Cloning your interesting gene into FLAG-, HA-, Myc-,GFP-tagged vector	Lecture · practice	Matsubara T	Preparation of the kind and principle of Tag
29,30	Tagged II Detection of tagged protein by anti-tag antibody	practice	Matsubara T	Review of immunoprecipitation

2019

Molecular and Cell Biology Training Program (Advanced Class) (Molecular and Cell Biology Training Program (Advanced Class))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

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 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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
*1	100%

*1 Evaluate your presentation and content in the data at the meeting and interview.

Etc

You can use the protocols in our laboratory. If you would like to buy protocol books interested in, we suggest which one is best.

2019

Molecular and Cell Biology Training Program (Advanced Class) (Molecular and Cell Biology Training Program (Advanced Class))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (research	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Gene transfer using viral vector I Principle of retroviral vector Generation of retroviral vector 1 • Digestion of vector and PCR products by restriction enzyme • Dephosphorylation of vector • Ligation	Lecture · practice	Matsubara T	Preparation about the principle of retroviral vector
3,4	Gene transfer using viral vector II Generation of retroviral vector 2 • Preparation of competent cells • Transformation	Lecture · practice	Matsubara T	Preparation about the generation of retroviral vector
5,6	Gene transfer using viral vector III Generation of retroviral vector 3 • Pick up colonies • Mini-scale culture	Lecture	Matsubara T	Preparation about the generation of retroviral vector
7,8	Gene transfer using viral vector IV Generation of retroviral vector 4 • Mid-scale culture • Preparation of packaging cell	Practice	Matsubara T	Preparation about the gene transfer using retroviral vector
9,10	Gene transfer using viral vector V Generation of retroviral vector 5 • Collection of viral supernatant • Measurement of MOI	Practice	Matsubara T	Preparation about the gene transfer using retroviral vector
11,12	Gene transfer using viral vector VI Generation of retroviral vector 6 • Gene transfer by retroviral vector containing GFP • Detection of GFP expression by microscop	Lecture	Matsubara T	Preparation about the gene transfer using retroviral vector
13,14	Chromatin immunoprecipitation (ChIP) I Principle of ChIP	Lecture	Kokabu S	Preparation about the principle of ChIP
15,16	Chromatin immunoprecipitation II Preparation of cells and cross-linking Immunoprecipitation	Practice	Kokabu S	Preparation about ChIP
17,18	Chromatin immunoprecipitation III PCR	Practice	Kokabu S	Review about ChIP
19,20	Genetically modified mice I Principle of transgenic mice Principle of knockout mice	Lecture	Kokabu S	Preparation about transgenic or knockout mice
21,22	Genetically modified mice II Principle of knockin mice Principle of conditional KO mice	Lecture	Kokabu S	Preparation about knockin or conditional knockout mice

2019

Molecular and Cell Biology Training Program (Advanced Class) (Molecular and Cell Biology Training Program (Advanced Class))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (research	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Lecture	Contents	Methods	Instructor	Preparation-Review
23,24	Analysis of the phenotype of the genetically modified mice I Genotyping by PCR Phenotype analyzed by histology	Lecture · practice	Kokabu S	Preparation about mouse genotyping
25,26	Analysis of the phenotype of the genetically modified mice II Preparation of primary osteoblasts Osteoclast differentiation	Practice	Kokabu S	Preparation about osteoblast and osteoclast culture
27,28	Analysis of the phenotype of the genetically modified mice III Analysis of lymphocyte markers by flow cytometry	Practice	Kokabu S	Understanding of flow cytometry
29,30	Analysis of the phenotype of the genetically modified mice IV	Practice	Kokabu S	Understanding of flow cytometry

2019

Bone Journal Club (Bone Journal Club)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Selection of article	50%
Oral presentation	50%

Etc

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

2019

Bone Journal Club (Bone Journal Club)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
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.	Kokabu S Matsubara T	Choose a topic and prepare for presentation.

2019

Oral Pathology (Oral Pathology)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Resesarch)	Credits	4
Methods	Lecture	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Min Zhang						
Instructor(s)	Zhang M., Yada N., Matsuo K.						

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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Oral Pathology (Oral Pathology)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Resesarch)	Credits	4
Methods	Lecture	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Min Zhang						
Instructor(s)	Zhang M., Yada N., Matsuo K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-3	Obtain the latest knowledge on caries and dentin-pulp complex disease from the covered topics.	lecture	Zhang	report
4-6	Obtain the latest knowledge on periapical lesion from the covered topics.	lecture	Zhang	report
7-9	Obtain the latest knowledge on periodontal lesion from the covered topics.	lecture	Zhang	report
10-12	Obtain the latest knowledge on diseases of jaw and temporomandibular joint from the covered topics.	lecture	Zhang	report
13-15	Obtain the latest knowledge on oral mucosal diseases from the covered topics.	lecture	Zhang	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

2019

Practice of Oral Pathology (basic course) (Practice of Oral Pathology (basic course))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Min Zhang						
Instructor(s)	Zhang M., 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 histopathologic specimen
2. Acquire expertise in the preparation of histochemical specimen
3. Acquire expertise in the preparation of immunohistochemical specimen
4. Acquire expertise in the preparation of electron microscopic specimen
5. (According to the theme) acquire expertise in cell culture
6. (According to the theme) acquire expertise in extraction of DNA and RNA
7. (According to the theme) acquire expertise in extraction of protein
8. (According to the theme) acquire expertise in electrophoresis and western blotting
9. (According to the theme) acquire expertise in gene cloning and recombination

Textbooks

Pub.	Aut.
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Reference Books

Pub.	Aut.
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Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Practice of Oral Pathology (basic course) (Practice of Oral Pathology (basic course))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Min Zhang						
Instructor(s)	Zhang M., Matsuo K.						

Contents

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

2019

Practice of Oral Pathology (advanced course) (Practice of Oral Pathology (advanced course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	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-structural, 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Practice of Oral Pathology (advanced course) (

Practice of Oral Pathology (advanced course))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
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
9-11	Presentation of research findings	Practice	Matsuo	report
12-15	Learn how to write a research paper and come up with the outline of thesis paper.	Practice	Matsuo	report

2019

Colloquium of Oral Pathology (Colloquium of Oral Pathology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Colloquium of Oral Pathology	Credits	2
Methods	Practice	Total time	30	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

Pub. _____ Aut. _____

Reference Books

Pub. _____ Aut. _____

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Colloquium of Oral Pathology (Colloquium of Oral Pathology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Colloquium of Oral Pathology	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
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 lesion and carcinoma in situ, and discuss it.	practice	Matsuo	report
4	Introduce and discuss participant ' s research and related literatures (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 literatures (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 literatures (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 literatures (IV).	practice	Matsuo	report
14,15	Summarize the discussion about participants ' research, and discuss the future development of the research.	practice	Matsuo	report

2019

Clinical Diagnostic Pathology (Clinical Diagnostic Pathology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Clinical Diagnostic Pathology	Credits	4
Methods	Lecture	Total time	60	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 immunohistochemical staining.
8. Acquire expertise in pathological diagnosis of oral and maxillofacial diseases.
9. Acquire expertise in differential diagnosis of benign and malignant tumors.

Textbooks

Pub. Aut.

Reference Books

Pathologic basis of disease, 9th edition
 Pub. Elsevier Aut. Robbins & Cotran

Pathology and Genetics of Tumours of the Head and Neck (IARC)
 Pub. WHO Classification of Tumours Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Clinical Diagnostic Pathology (Clinical Diagnostic Pathology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Clinical Diagnostic Pathology	Credits	4
Methods	Lecture	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Matsuo K.						
Instructor(s)	Matsuo K., Yada N.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Learn outline of human pathology	lecture	Matsuo	report
3-5	Learn outline of pathological anatomy (autopsy)	lecture	Matsuo	report
6-8	Learn outline of biopsy	lecture	Matsuo	report
9-11	Learn outline of handling of the surgical materials	lecture	Matsuo	report
12-14	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 immunohistochemical 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	Matsuo Yada	report
27-30	Learn differential diagnosis of benign and malignant tumors.	lecture	Matsuo Yada	report

2019

Practice of Clinical Diagnostic Pathology (Practice of Clinical Diagnostic Pathology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	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

Pub. Aut.

Reference Books

Pathologic basis of disease, 9th
 Pub. Elsevier Aut. Robbins & Cotran
 WHO classification of Head and Neck tumours
 Pub. IARC Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Practice of Clinical Diagnostic Pathology (Practice of Clinical Diagnostic Pathology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yada N						
Instructor(s)	Yada N.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Orientation	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

2019

Infectious Diseases (Infectious Diseases)

Grades	1-2grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y.						

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

- Virulence factors responsible for infection
- Dental biofilm
- Oral infectious diseases
- Recognition and elimination of pathogens in immune system
- Cytokines and inflammatory mediators
- Pattern recognition receptors
- Role of immune cells in inflammatory response
- Host defense in oral lesion
- Diagnosis, prevention and treatment of infectious diseases
- Inflammasome
- Bone remodeling
- Interaction between bone metabolisms and immune system

Textbooks

Handout
Pub. Aut.

Reference Books

Recent reports in our laboratory publications and reference papers concerning this lecture
Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	10%
Reports after the group studies and lectures	90%

Etc

At any time, we accept your visits about your study-counsel and advices at our department in the 11th floor of main building.

2019

Infectious Diseases (Infectious Diseases)

Grades	1-2grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y.						

Contents

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

2019

Infectious Diseases (Infectious Diseases)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Yoshioka Y., Ariyoshi.W						

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

- Bring up your ability to read scientific papers
- Bring up your ability to think critically
- Bring up your ability to think logically

Textbooks

Novel scientific papers, Nature, Cell, Science, etc
 Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	20%
Oral presentations and discussions	80%

Etc

At any time, we accept your visits about your study-counsel and advices at our department in the 11th floor of main building.

2019

Infectious Diseases (Infectious Diseases)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Yoshioka Y., Ariyoshi.W						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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	Reading paper intensively and investigating issues on the area related to your experiments

2019

Infectious Diseases (Infectious Diseases)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y.						

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

- Bring up your ability to explain your experimental data
- Bring up your ability to think critically
- Bring up your ability to think logically

Textbooks

Research lab notebook and reference papers concerning your project
 Pub. _____ Aut. _____

Reference Books

Pub. _____ Aut. _____

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	10%
Oral presentations and discussions	90%

Etc

At any time, we accept your visits about your study-counsel and advices at our department in the 11th floor of main building.

2019

Infectious Diseases (Infectious Diseases)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	1. Understanding the background, methods and results of your experiments 2. Discussion about experimental data	Presentation about the data of your experiments and discussion	Ariyoshi Yoshioka	Reading paper intensively and investigating issues on the area related your experiments

2019

Infectious Diseases IV (Infectious Diseases IV)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y.						

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
 Cell culture
 Bacteria culture
 RNA extraction from cultured cell
 real-time RT-PCR analysis
 Protein preparation from cultured cell
 Western blotting analysis

Textbooks

Handout
 Pub.

Aut.

Reference Books

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

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	10%
Discussion	90%

Etc

At any time, we accept your visits about your study-counsel and advices at our department in the 11th floor of main building.

2019

Infectious Diseases IV (Infectious Diseases IV)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ariyoshi W						
Instructor(s)	Ariyoshi.W, Yoshioka Y.						

Contents

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

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., 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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral presentation	40%
discussions	10%
attendance	50%

Etc

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Contents

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

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., 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

Pub.

Aut.

Reference Books

Goodman & Gilman 's the Pharmacological Basis of Therapeutics

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral presentation	40%
discussions	10%
attendance	50%

Etc

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation- Review
1	Outline of cardiovascular drugs and central nervous system drugs	Lecture	Takeuchi Ohsumi Higashi	
2	Cardiovascular drugs 1 You will obtain knowledge of drugs used in hypertension.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
3	Cardiovascular drugs 2 You will obtain knowledge of drugs used in hypertension.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
4	Cardiovascular drugs 3 You will obtain knowledge of drugs used in heart failure.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
5	Cardiovascular drugs 4 You will obtain knowledge of drugs used in the treatment of angina pectoris.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
6	Cardiovascular drugs 5 You will obtain knowledge of antiarrhythmic drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
7	Cardiovascular drugs 6 You will study the things to be careful about the patients who take cardiovascular drugs in dental treatment.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
8	Cardiovascular drugs 7 You will study the things to be careful about the patients who take cardiovascular drugs in dental treatment.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
9	Central nerves system drugs 1 You will obtain knowledge of mental disorder.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
10	Central nerves system drugs 2 You will obtain knowledge of antidepressants.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
11	Central nerves system drugs 3 You will obtain knowledge of drugs used in mania.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
12	Central nerves system drugs 4 You will obtain knowledge of drugs used in Alzheimer disease.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
13	Central nerves system drugs 5 You will obtain knowledge of antipsychotic drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
14	Central nerves system drugs 6 You will study alcoholism and drug dependence.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
15	Summary You will study the relationship between dental treatments and cardiovascular drugs or central nerves system drugs.	Lecture	Takeuchi Ohsumi Higashi	

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., 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

Pub.

Aut.

Reference Books

The antimicrobial stewardship textbook for lifelong continuing education

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral presentation	40%
discussions	10%
attendance	50%

Etc

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	You will discuss the lecture and practice in this course.	Lecture	Takeuchi Ohsumi Higashi	
2	Antimicrobial drugs 1 You will obtain knowledge of the theory of PK-PD.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
3	Antimicrobial drugs 2 You will obtain knowledge of the theory of PK-PD.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
4	Antimicrobial drugs 3 You will study resistant bacteria.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
5	Antimicrobial drugs 4 You will obtain knowledge of carbapenem antibiotics.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
6	Antiviral drugs You will obtain knowledge of new anti-influenza drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
7	Antiplatelet drugs 1 You will study the coagulation of blood and fibrinolytic system.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
8	Antiplatelet drugs 2 You will obtain knowledge of new antiplatelet drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
9	Antiplatelet drugs 3 You will study the relationship between dental treatment and new antiplatelet drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
10	You will study the guideline for use of the coagulation of blood inhibitors.	Lecture and practice	Takeuchi Ohsumi Higashi	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.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
12	Antifungal drugs 2 You will study the drug-interaction of antifungal drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
13	Pharmaceuticals for osteoporosis 1 You will obtain knowledge of bisphosphonates.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
14	Pharmaceuticals for osteoporosis 2 You will study the adverse effect of bisphosphonates.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
15	Summary You will study the administration of drugs in dental treatment with safety.	Lecture	Takeuchi Ohsumi Higashi	

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Course Description

【Language】 Japanese

In this course, you will study the anti-infective drugs (antimicrobial drugs, antifungal drugs and antiviral drugs) and the up-to-date pharmacological therapeutics in infectious disease.

Attainment Objectives

1. You will administer the proper anti-infective drug to the patient.
2. You will explain the up-to-date anti-infective drugs.
3. You will administer the anti-infective drugs based on the theory.

Textbooks

Pub.

Aut.

Reference Books

The antimicrobial stewardship textbook for lifelong continuing education

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral presentation	40%
discussions	10%
attendance	50%

Etc

2019

Pharmacology (Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Outline of the anti-infective drugs You will study the outline of the anti-infective drugs.	Lecture	Takeuchi Ohsumi Higashi	
2	Outline of antimicrobial drugs 1 You will study the outline of antimicrobial drugs and resistant bacteria.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
3	Outline of antimicrobial drugs 2 You will obtain knowledge of the theory of PK-PD.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
4	Detailed explanations of antimicrobial drugs 1 You will obtain knowledge of β -lactam antibiotics.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
5	Detailed explanations of antimicrobial drugs 2 You will obtain knowledge of β -lactam antibiotics.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
6	Detailed explanations of antimicrobial drugs 3 You will obtain knowledge of antibiotics except β -lactam antibiotics.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
7	Detailed explanations of antimicrobial drugs 4 You will obtain knowledge of antibiotics except β -lactam antibiotics.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
8	Detailed explanations of antimicrobial drugs 5 You will study of the application of antibiotics in dental treatment.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
9	Detailed explanations of antimicrobial drugs 6 You will obtain knowledge of new quinolone antimicrobial drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
10	Detailed explanations of antimicrobial drugs 7 You will study of the application of new quinolone antimicrobial drugs in dental treatment.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
11	Detailed explanations of antifungal drugs 1 You will obtain knowledge of antifungal drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
12	Detailed explanations of antifungal drugs 2 You will study of the application of antifungal drugs in dental treatment.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
13	Detailed explanations of antiviral drugs 1 You will obtain knowledge of antiviral drugs.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
14	Detailed explanations of antiviral drugs 2 You will study of the application of antiviral drugs in dental treatment.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
15	Summary You will study the administration of the proper anti-infective drug to the patient.	Lecture	Takeuchi Ohsumi Higashi	

2019

Journal Club - Current Topics for Drug Discovery - (Journal Club - Current Topics for Drug Discovery -)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						
	Takeuchi H., Oosumi T., 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

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral presentations	70%
Discussions and activities	30%

Etc

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

2019

Journal Club - Current Topics for Drug Discovery - (Journal Club - Current Topics for Drug Discovery -)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						
	Takeuchi H., Oosumi T., Higashi S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Understand the article and introduce it including the background of the study, discuss about the possible application for drug discovery.	Lecture and Practice including Presentation and Discussion	Takeuchi Ohsumi Higashi	Choose a topic and prepare for presentation.

2019

Seminar in Molecular Pharmacology (Seminar in Molecular Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Ohsumi T., 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
presentation	40%
Discussions	15%
Attendances	45%

Etc

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

2019

Seminar in Molecular Pharmacology (Seminar in Molecular Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Orientation Learn overall process of the examination.	Lecture	Takeuchi Ohsumi	Careful reading of the handout
2	Pre-preparation of bacterial expression DNA construct Learn how to obtain the information of the genes of interest and design the construct.	Practice	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	Recording the results
4	Preparation of bacterial expression DNA construct (2) Learn how to judge the result of cloning.	Practice	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	Recording the results
6	Confirming expression of recombinant protein (2) Learn how to analyze the expression of recombinant protein; SDS-PAGE.	Practice	Takeuchi Ohsumi Higashi	Recording the results
7	Preparation of recombinant protein (1) Learn how to optimize introducing condition in large scale culture for preparing recombinant protein.	Practice	Takeuchi Ohsumi Higashi	Recording the results
8	Preparation of recombinant protein (2) Learn how to purify recombinant protein from the lysate of bacteria.	Practice	Takeuchi Ohsumi Higashi	Recording the results
9	Preparation of recombinant protein (3) Learn how to examine concentration and purity of the prepared protein.	Practice	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	Recording the results
12	In vitro assay using the recombinant protein (3) Learn how to examine enzymatic activity of the prepared protein.	Practice	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	Recording the results
14	Summarizing the data Summarize your data and prepare for the presentation.	Practice	Takeuchi Ohsumi Higashi	Summarize your results and prepare for the presentation
15	Presentation of the summarized data Present your summarized data and discuss about the result.	Practice	Takeuchi Ohsumi Higashi	Summarize your results and prepare for the presentation

2019

Seminar in Cellular and Molecular Pharmacology (Seminar in Cellular and Molecular Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Ohsumi T., 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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Presentation	40%
Discussions	15%
Attendances	45%

Etc

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

2019

Seminar in Cellular and Molecular Pharmacology (Seminar in Cellular and Molecular Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takeuchi H.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Orientation Learn overall process of the examination.	Lecture	Takeuchi Ohsumi	Careful reading of the handout
2	Pre-preparation of mammalian expression DNA construct Learn how to obtain the information of the genes of interest and design the construct.	Practice	Takeuchi Ohsumi Higashi	Recording the results
3	Preparation of mammalian expression DNA construct (1) Learn how to prepare the interest gene and the vector for cloning.	Practice	Takeuchi Ohsumi Higashi	Recording the results
4	Preparation of mammalian expression DNA construct (2) Learn how to judge the result of cloning.	Practice	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	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	Takeuchi Ohsumi Higashi	Recording the results
9	Examining the effect of drugs using the transfected cells (1) Learn how to observe translocation of the intracellular protein in response to drug treatment.	Practice	Takeuchi Ohsumi Higashi	Recording the results
10	Examining the effect of drugs using the transfected cells (2) Learn how to evaluate effect of the drug based on phosphorylation of the intracellular protein (Preparation of samples).	Practice	Takeuchi Ohsumi Higashi	Recording the results
11	Examining the effect of drugs using the transfected cells (3) Learn how to evaluate effect of the drug based on phosphorylation of the intracellular protein (Electrophoresis).	Practice	Takeuchi Ohsumi Higashi	Recording the results
12	Examining the effect of drugs using the transfected cells (4) Learn how to evaluate effect of the drug based on phosphorylation of the intracellular protein (Detection and judgment of the result).	Practice	Takeuchi Ohsumi Higashi	Recording the results
13	Examining the effect of drugs using the transfected cells (5) Learn how to evaluate effect of the drug based on intracellular calcium level (Preparation of cells).	Practice	Takeuchi Ohsumi Higashi	Recording the results
14	Examining the effect of drugs using the transfected cells (6) Learn how to evaluate effect of the drug based on intracellular calcium level (Calcium imaging).	Practice	Takeuchi Ohsumi Higashi	Recording the results
15	Summary of the data and discussion Summarize your data and present/discuss the result.	Practice	Takeuchi Ohsumi Higashi	Summarize your results and prepare for the presentation

2019

Seminar in Pharmacology (Seminar in Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., 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

Pub.

Aut.

Reference Books

Guidelines for proper conduct of animal experiments

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral presentation	40%
discussions	10%
attendance	50%

Etc

2019

Seminar in Pharmacology (Seminar in Pharmacology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohsumi T.						
Instructor(s)	Takeuchi H., Ohsumi T., Higashi S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	You will discuss the lecture and practice in this course.	Lecture	Takeuchi Ohsumi Higashi	Check the schedule
2	Laboratory animal science 1 You will study the outline of laboratory animals.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
3	Laboratory animal science 2 You will obtain knowledge of laws and guidelines for laboratory animals.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
4	Laboratory animal science 3 You will obtain knowledge of animal welfare for laboratory animals.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
5	Laboratory animal science 4 You will obtain knowledge of the administration of drug, anesthetics management and euthanasia procedures.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
6	Laboratory animal science 5 You will obtain knowledge of the administration of drug, anesthetics management and euthanasia procedures.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
7	Laboratory animal science 5 You will obtain knowledge of the administration of drug, anesthetics management and euthanasia procedures.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
8	Pharmacological experiment 1 You will obtain knowledge of the acute toxicity test.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
9	Pharmacological experiment 2 You will obtain knowledge of the chronic toxicity test.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
10	Pharmacological experiment 3 You will obtain knowledge of the local irritation test.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
11	Pharmacological experiment 4 You will obtain knowledge of another toxicity tests.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
12	Drafting of animal experiment protocol 1 You will study the method of drafting the animal experiment protocol.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
13	Drafting of animal experiment protocol 2 You will study the method of drafting the animal experiment protocol.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
14	Drafting of animal experiment protocol 3 You will draft the animal experiment protocol.	Lecture and practice	Takeuchi Ohsumi Higashi	Careful reading of handout
15	Summary You will summarize pharmacological experiments.	Lecture	Takeuchi Ohsumi Higashi	Summarize the points to handle animals

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	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 epidemiology
3. Understand the outlines of clinical epidemiological study designs.
4. Critically appraise clinical research papers and structured abstracts.
5. Practice Evidence-Based Dentistry (EBD).

Textbooks

Introduction to Evidence-Based Dentistry
Pub. Nagasue Shoten Aut.

Reference Books

Designing Clinical Research
Pub. Lippincott Williams & Wilkins Aut. Stephen B Hulley

Guide to Practice-Based Research and Scientific Writing
Pub. Ishiyaku Publishers Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
deliverables during your coursework	70%

Etc

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	Kakudate N.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Introduction You 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 : You will learn how to search the literature using PubMed.	Practice	Kakudate	Literature search/PubMed
7,8	Literature search : 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 : 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 : 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 : You will learn about the design of cohort study.	Lecture	Kakudate	Cohort study
15,16	Critical Appraisal : 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 : You will learn about the design of interventional study.	Lecture	Kakudate	Interventional Study
19,20	Critical Appraisal : 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 : You will learn about the design of systematic reviews and meta-analyses.	Lecture	Kakudate	Systematic reviews and meta-analyses
23,24	Critical Appraisal : 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

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	Kakudate N.						

Lecture	Contents	Methods	Instructor	Preparation·Review
25,26	Study design : You will learn about the design of diagnosis and screening.	Practice	Kakudate	Study design of diagnosis and screening.
27,28	Critical Appraisal : 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.

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compusory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	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 framework
3. Develop an appropriate clinical epidemiological study design.
4. Develop an appropriate statistical design.
5. Create a study protocol.

Textbooks

Pub. _____ Aut. _____

Reference Books

Introduction to Evidence-Based Dentistry
Pub. Nagasue Shoten Aut. _____

Designing Clinical Research
Pub. Lippincott Williams & Wilkins Aut. Stephen B Hulley

Guide to Practice-Based Research and Scientific Writing
Pub. Ishiyaku Publishers Aut. _____

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
deliverables during your coursework	70%

Etc

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compusory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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 : 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 : 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 : 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 : 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 : 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 : You will learn how to estimate sample size.	Lecture and Practice	Kakudate	Sample size estimation

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compusory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Lecture	Contents	Methods	Instructor	Preparation·Review
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

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	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

Pub. _____ Aut. _____

Reference Books

Introduction to Evidence-Based Dentistry
Pub. Nagasue Shoten Aut. _____

Designing Clinical Research
Pub. Lippincott Williams & Wilkins Aut. Stephen B Hulley

Guide to Practice-Based Research and Scientific Writing
Pub. Ishiyaku Publishers Aut. _____

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
deliverables during your coursework	70%

Etc

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	Kakudate N.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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

2019

Clinical Epidemiology (Clinical Epidemiology)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	Kakudate N.						

Lecture	Contents	Methods	Instructor	Preparation·Review
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

2019

Clinical Epidemiology Practice (Clinical Epidemiology Practice)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
deliverables during your coursework	30%
presentation and Q&A	40%

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.

2019

Clinical Epidemiology Practice (Clinical Epidemiology Practice)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	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

2019

Journal Club in Clinical Epidemiology (Journal Club in Clinical Epidemiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory/Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
deliverables during your coursework	30%
presentation and Q&A	40%

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.

2019

Journal Club in Clinical Epidemiology (Journal Club in Clinical Epidemiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory/Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N.						
	Kakudate N.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	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

2019

Oral Health Science (Oral Health Science)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房 住郎						
Instructor(s)	Hidaka K., Akifusa S., Hikiji H., Nakamichi A., Sonoki K., Yoshino K., Tsujisawa T.						

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 practical problems with healthcare team and role of dental personnel on an integrated community care-system, based on knowledge on recent trend of health, medical, and long-term care in Japan.
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 surgery and oral medicine
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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
evaluation of after-action report	100%

Etc

2019

Oral Health Science (Oral Health Science)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房 住郎						
Instructor(s)	Hidaka K., Akifusa S., Hikiji H., Nakamichi A., Sonoki K., Yoshino K., Tsujisawa T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Promotion and problems of integrated community care-system (1)	Lecture	Hidaka	after-action report
2	Promotion and problems of integrated community care-system (2)	Lecture	Hidaka	after-action report
3	Oral health related-perspective (1)	Lecture	Akifusa	after-action report
4	Oral health related-perspective (2)	Lecture	Akifusa	after-action report
5	EBM on oral science (1)	Lecture	Hikiji	after-action report
6	EBM on oral science (2)	Lecture	Hikiji	after-action report
7	Perspective on higher education for dental hygienist (1)	Lecture	Nakamichi	after-action report
8	Perspective on higher education for dental hygienist (2)	Lecture	Nakamichi	after-action report
9	Methodology on relation with oral and general status (1)	Lecture	Sonoki	after-action report
10	Methodology on relation with oral and general status (2)	Lecture	Sonoki	after-action report
11	medical practice for dysphagia (1)	Lecture	Professor of DDS	after-action report
12	medical practice for dysphagia (2)	Lecture	Professor of DDS	after-action report
13	Dietetic perspective on health (1)	Lecture	Tsujisawa	after-action report
14	Dietetic perspective on health (2)	Lecture	Tsujisawa	after-action report
15	Summary	Lecture	Akifusa	after-action report

2019

Oral Health Science (Oral Health Science)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房 住郎						
Instructor(s)	Hidaka K., Akifusa S., Hikiji H., Nakamichi A., Sonoki K., Yoshino K., Tsujisawa T.						

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 can

1. 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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
evaluation of after-action report	100%

Etc

2019

Oral Health Science (Oral Health Science)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房 住郎						
Instructor(s)	Hidaka K., Akifusa S., Hikiji H., Nakamichi A., Sonoki K., Yoshino K., Tsujisawa T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	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

2019

Oral Health Science (Oral Health Science)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房 住郎						
Instructor(s)	Hidaka K., Akifusa S., Hikiji H., Nakamichi A., Sonoki K., Yoshino K., Tsujisawa T.						

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 can

1. explain logically the contents of your study.
2. explain the background of your study in detail.
3. answer questions on your study.

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
evaluation of after-action report	100%

Etc

2019

Oral Health Science (Oral Health Science)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	秋房 住郎						
Instructor(s)	Hidaka K., Akifusa S., Hikiji H., Nakamichi A., Sonoki K., Yoshino K., Tsujisawa T.						

Contents

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

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	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

Pub. Aut.

Reference Books

Health in Japan : Recent Vital Statistics. Japan.

Pub. Health, Labour and Welfare Aut. Statistics Association

Concise Text of Hygiene and Public Health. Japan. 2019.

Pub. Nankodo.Co. Aut. Ichiro Tsuji

Visual Guide: Medical Care and Public Health 2018-2019. Japan. 2018.

Pub. Institute for Health Care Aut. Medic Media Co. Information Sciences, Inc.

Dental Practice Management. Japan. 2018.

Pub. Japanese Society of Dental Aut. Ishiyaku Pub, Inc Practice Administration

Grading Criteria and Method of Evaluation

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

You can study online by distance learning from any location.

Etc

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Society and dentistry 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 dentistry 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 dentistry 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 regulations 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 regulations 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 regulations 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 regulations 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

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	Preparation-Review
12	Dental doctor and related regulations 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
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

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	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

Pub. Aut.

Reference Books

Health in Japan : Recent Vital Statistics. Japan.

Pub. Health, Labour and Welfare Aut. Statistics Association

Concise Text of Hygiene and Public Health. Japan. 2019.

Pub. Nankodo.Co. Aut. Ichiro Tsuji

Visual Guide: Medical Care and Public Health 2018-2019. Japan. 2019.

Pub. Institute for Health Care Aut. Medic Media Co. Information Sciences,Inc.

Manual of epidemiology. Japan. 2012.

Pub. Nanzando.Co. Aut. Hiroshi Yanagawa

Grading Criteria and Method of Evaluation

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

You can study online by distance learning from any location.

Etc

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Related laws and regulations and health care occupations 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 occupations 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 occupations 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 care 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 care 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 care 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

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	Preparation-Review
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
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

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	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

Pub. Aut.

Reference Books

Health in Japan : Recent Vital Statistics. Japan.

Pub. Health, Labour and Welfare Aut. Statistics Association

Concise Text of Hygiene and Public Health. Japan. 2019.

Pub. Nankodo.Co. Aut. Ichiro Tsuji

Visual Guide: Medical Care and Public Health 2018-2019. Japan. 2018.

Pub. Institute for Health Care Aut. Medic Media Co. Information Sciences,Inc.

Manual of epidemiology. Japan. 2012.

Pub. Nanzando.Co. Aut. Hiroshi Yanagawa

Grading Criteria and Method of Evaluation

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

You can study online by distance learning from any location.

Etc

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Occupational health 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 health 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 management 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 management 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 Management 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	Health Promotion You can understand about the alternative dispute resolution which is attracting attention as a solution of medical dispute and learn about trends in medical litigation.	lecture	Fukuizumi	Reading an article, handout, reference book intensively

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	Preparation-Review
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 design 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 design You can learn about the design outcome measures, advantages and disadvantages of cross-sectional study.	lecture	Fukuizumi	Reading an article, handout, reference book intensively
14	Study design 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 design 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

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	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

Pub. Aut.

Reference Books

Health in Japan : Recent Vital Statistics. Japan.

Pub. Health, Labour and Welfare Aut. Statistics Association

Concise Text of Hygiene and Public Health. Japan. 2019.

Pub. Nankodo.Co. Aut. Ichiro Tsuji

Visual Guide: Medical Care and Public Health 2018-2019. Japan. 2018.

Pub. Institute for Health Care Aut. Medic Media Co. Information Sciences,Inc.

Manual of epidemiology. Japan. 2012.

Pub. Nanzando.Co. Aut. Hiroshi Yanagawa

Grading Criteria and Method of Evaluation

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

You can study online by distance learning from any location.

Etc

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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.	lecture practice	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.	lecture practice	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.	lecture practice	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 APPRAISAL SKILLS PROGRAMME), and learn and to clarify the difference between observational studies.	lecture practice	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.	lecture practice	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.	lecture practice	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.	lecture practice	Fukuizumi	Reading an article, handout, reference book intensively
8	Epidemiological factors You can learn about host factors, environmental factors, and multi-factor etiology.	lecture practice	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.	lecture practice	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.	lecture practice	Fukuizumi	Reading an article, handout, reference book intensively
11	Etiology epidemiology You can learn about etiology epidemiology, risk factors, and molecular epidemiology.	lecture practice	Fukuizumi	Reading an article, handout, reference book intensively

2019

Training Program in Public Health and Social Security Policy (Training Program in Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Lecture	Contents	Methods	Instructor	Preparation-Review
12	Policy epidemiology You can learn about population approach, high-risk approach, and medical economic evaluation (outcome analysis).	lecture practice	Fukuizumi	Reading an article, handout, reference book
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.	lecture practice	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.	lecture practice	Fukuizumi	Reading an article, handout, reference book intensively
15	Creating a statistical chart You can learn about the principle of charting, and the formats and features of the statistics chart.	lecture practice	Fukuizumi	Reading an article, handout, reference book intensively

2019

Practice of Public Health and Social Security Policy (Practice of Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	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

The list of Statistical Surveys conducted by Ministry of Health
Pub. Labour and Welfare Aut.

The Portal Site of Official Statistics of Japan(e-Stat)
Pub. Aut.

Reference Books

Health in Japan : Recent Vital Statistics. Japan.
Pub. Health, Labour and Welfare Aut.
Statistics Association

The Trends of Insurance and Pension. Japan.
Pub. Health, Labour and Welfare Aut.
Statistics Association

Health, Labour and Welfare Statistics Association
Pub. Health, Labour and Welfare Aut.
Statistics Association

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
percentage of attendance	30%
results of simulation	25%
oral presentation	25%
discussion	20%

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 Welfare
<http://www.mhlw.go.jp/toukei/itiran/>
- The Portal Site of Official Statistics of Japan(e-Stat)
<https://www.e-stat.go.jp/>

2019

Practice of Public Health and Social Security Policy (Practice of Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	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

2019

Practice of Public Health and Social Security Policy (Practice of Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	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

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

The list of Statistical Surveys conducted by Ministry of Health
Pub. Labour and Welfare Aut.

The Portal Site of Official Statistics of Japan (e-Stat)
Pub. Aut.

Reference Books

Health in Japan : Recent Vital Statistics. Japan.
Pub. Health, Labour and Welfare Aut.
Statistics Association

Health, Labour and Welfare Statistics Association
Pub. The Trends of Insurance and Aut.
Pension. Japan.

Health, Labour and Welfare Statistics Association
Pub. Health, Labour and Welfare Aut.
Statistics Association

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
percentage of attendance	30%
the results of simulation	25%
oral presentation	25%
discussion	20%

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

2019

Practice of Public Health and Social Security Policy (Practice of Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Etc

{ Text }

- The list of Statistical Surveys conducted by Ministry of Health, Labour and Welfare
<http://www.mhlw.go.jp/toukei/itiran/>
- The Portal Site of Official Statistics of Japan(e-Stat)
<https://www.e-stat.go.jp/>

2019

Practice of Public Health and Social Security Policy (Practice of Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T.						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	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

2019

Colloquium of Public Health and Social Security Policy (Colloquium of Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	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

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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
comprehension of the article	25%
oral presentation	25%
discussion	20%

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.

2019

Colloquium of Public Health and Social Security Policy (Colloquium of Public Health and Social Security Policy)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuizumi T						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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.

2019

Primary Dental Care (Clinical Basic Course) (

Primary Dental Care (Clinical Basic Course))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Primary Dental Care (Clinical Basic Course) (

Primary Dental Care (Clinical Basic Course))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
1-60	The contents of this course are as follows; <ul style="list-style-type: none"> • 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 	lecture practice seminar presentation discussion	Awano S Muraoka K	You should read the reference related to this course and submit the report after each class.

2019

Primary Dental Care (Clinical Advance Course) (

Primary Dental Care (Clinical Advance Course))

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., 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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluation of clinical performance and report	100%

Etc

2019

Primary Dental Care (Clinical Advance Course) (

Primary Dental Care (Clinical Advance Course))

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K., Soh I.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
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	lecture practice seminar presentation discussion	Awano S Muraoka K Soh I	You should prepare for each practice and summarize the content of the case after practice.

2019

Primary Dental Care (Clinical Conference) (Primary Dental Care (Clinical Conference))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluation of presentation	100%

Etc

2019

Primary Dental Care (Clinical Conference) (Primary Dental Care (Clinical Conference))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
1-15	The contents of this course is are as follows; ・ learn the latest clinical information by making a case presentation based on primary dental care	Seminar	Awano S., Muraoka K.	You should prepare the material for a case presentation

2019

Educational Research of Comprehensive Clinical Dentistry (Educational Research of Comprehensive Clinical Dentistry)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						
	Awano S., Muraoka K.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Educational Research of Comprehensive Clinical Dentistry (Educational Research of Comprehensive Clinical Dentistry)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						
	Awano S., Muraoka K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	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	lecture practice seminar presentation discussion	Awano S., Muraoka K.	You should read the reference related to this course and prepare the material.

2019

Educational Research of Comprehensive Clinical Dentistry (Educational Research of Comprehensive Clinical Dentistry)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						
	Awano S., 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluation of presentation	100%

Etc

2019

Educational Research of Comprehensive Clinical Dentistry (Educational Research of Comprehensive Clinical Dentistry)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Awano S.						
Instructor(s)	Awano S., Muraoka K.						
	Awano S., Muraoka K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	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 S., Muraoka K.	You should prepare the material for a presentation

2019

Comprehensive dentistry (Basic course) (

Comprehensive dentistry (Basic course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

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

Essential handbook for dental resident, Real medical interview matched with the patients ' needs

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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).

Etc

2019

Comprehensive dentistry (Basic course) (

Comprehensive dentistry (Basic course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Guidance	Lecture	Konoo	-
2-3	Impression taking	Lecture, Practice	Konoo Nagamatsu u Onizuka Sogabe	-
4-8	Impression taking	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
9-14	Study model making	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
15-22	Information gathering (pictures etc.)	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
23-24	Referral patient from other clinical office	Lecture, Practice	Konoo Nagamatsu u Onizuka Sogabe	-
25-29	Medical interview 1	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
30-34	Medical interview 2	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
35-37	Clinical system and treatment posture	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
38-41	Endodontic treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-

2019

Comprehensive dentistry (Basic course) (

Comprehensive dentistry (Basic course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

Lecture	Contents	Methods	Instructor	Preparation· Review
42-45	Periodontal initial treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
46-49	Treatment of the teeth disease	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
50-54	Limited orthodontic treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
55-57	Presentation resume making	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
58-60	Oral Presentation	Practice	Konoo Nagamatsu u Onizuka Sogabe	-

2019

Comprehensive dentistry (advanced course) (

Comprehensive dentistry (advanced course))

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

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

Pub. Aut.

Reference Books

Essential handbook for dental resident, Real medical interview matched with the patients ' needs
 Pub. Aut.

Grading Criteria and Method of Evaluation

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).

Etc

2019

Comprehensive dentistry (advanced course) (

Comprehensive dentistry (advanced course))

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-4	Guidance, Medical interview	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
5-8	Medical interview	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
9-12	Periodontal treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
13-17	Endodontic treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
18-21	Endodontic treatment	Endodontic treatment	Konoo Nagamatsu u Onizuka Sogabe	-
22-26	Dental crown treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
27-31	Rigid prosthetic treatment for the missing teeth	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
32-36	Removable prosthetic treatment for the missing teeth	Practice	Konoo Nagamatsu u Onizuka	-
37-40	Orthodontic treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
41-44	Orthodontic treatment	Practice	Konoo Nagamatsu u Onizuka Sogabe	-

2019

Comprehensive dentistry (advanced course) (

Comprehensive dentistry (advanced course))

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

Lecture	Contents	Methods	Instructor	Preparation· Review
45-46	Application of the explanatory model	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
47-48	Denture Guidance	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
49-50	Infection control	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
51-52	Medical safety management	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
53-57	Comprehensive dentistry	Practice	Konoo Nagamatsu u Onizuka Sogabe	-
58-60	Oral presentation	Practice	Konoo Nagamatsu u Onizuka Sogabe	-

2019

Research of the dental education (Research of the dental education)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C. Clinical training instructor : Konoo,Ngamatsu,Onizuka 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

The medical communication Research, The questionnaire methods The related articles.

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Research of the dental education (Research of the dental education)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C. Clinical training instructor : Konoo,Ngamatsu,Onizuka Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	orientation	Lecture	Konoo	Communication skills, Educational technique
2	Communication skills 1 (Active listening, empathy and Cross-cultural communication)	Lecture	Konoo, Nagamatsu, Onizuka,	Communication skills, Cross-cultural communication
3	Communication research methods	Lecture	Konoo, Onizuka	Ethnomethodology , Taxonomy
4	Communication skills 2	Practice	Konoo, Nagamatsu, Onizuka,	Communication skills, Competences, Dialect
5-7	Interaction analysis (quantitative)	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Scripts, RIAS
8-9	Interaction analysis (qualitative)	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Textmining Competences
10	Global standard of the dental education	Lecture	Konoo	Outcomes
11	Problem Based Learning	Lecture	Konoo	Outcomes PBL
12-13	Medical Interview	Lecture	Konoo, Nagamatsu, Onizuka,	Psychosocial factors
14-15	Model simulation 1 (guidance, automatic trace pursuit and preparation pressure)	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	simulation

2019

Research of the dental education (Research of the dental education)

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C. Clinical training instructor : Konoo,Ngamatsu,Onizuka 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

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3. To be competent in communication
4. Application of educational methodology
5. Professionalism

Textbooks

The medical communication Research, The questionnaire methods, The related articles.

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Research of the dental education (Research of the dental education)

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C. Clinical training instructor : Konoo,Ngamatsu,Onizuka Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-5	Model simulation 2 (Cavity, preparation and root canal measuring)	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	simulator
6-7	Microteaching	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Characteristic
8-9	Medical Behavior	Lecture	Konoo, Onizuka	Behavior education
10-11	Medical Ethics	Lecture	Konoo, Nagamatsu, Onizuka	Professionalism
12-13	KJ method	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Characteristic
14-15	Facilitation skills	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Behavior changes Facilitation

2019

Research of the dental education (Research of the dental education)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C. Clinical training instructor : Konoo,Ngamatsu,Onizuka 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

The medical communication Research, The questionnaire methods The related articles.

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Research of the dental education (Research of the dental education)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C. Clinical training instructor : Konoo,Ngamatsu,Onizuka Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-2	Coaching	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Assertion
3-4	Paper questionnaire	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Characteristic of Questionnaire method
5-7	dental psychosomatic disease	Lecture	Konoo	dental psychosomatic disease Behavior
8	patient psychology	Lecture	Konoo	Cognitive psychology
9	correspondence to a complainer	Lecture, Practice	Konoo, Nagamatsu, Onizuka,	Complainer, Cognitive psychology
10-11	Simulated (Standardized)patient	Lecture	Konoo	SP Facilitation
12-14	Safety medical environment design	Lecture	Onizuka	Risk management, Incident
15	Professionalism	Lecture	Konoo	competence

2019

Education and research of the general dentistry (Education and research of the general dentistry)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

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

An important related research article and appropriate reference book
Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Education and research of the general dentistry (Education and research of the general dentistry)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-15	Understanding the educational research paper	Abstract , report and discussion	Konoo Nagamatsu u Onizuka Sogabe	Investigation the associated research paper

2019

Education and research of the general dentistry () Education and research of the general dentistry ()

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

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

An important related research article and appropriate reference book
 Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
portfolios, oral and paper examination	100%

Etc

2019

Education and research of the general dentistry () Education and research of the general dentistry ()

Grades	2 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-15	Understanding the educational research paper	Abstract , report and discussion	Konoo Nagamatsu u Onizuka Sogabe	Investigation the associated research paper

2019

Education and research of the general dentistry (Education and research of the general dentistry)

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

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

An important related research article and appropriate reference book
 Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
portfolios, oral and paper examination	100%

Etc

2019

Education and research of the general dentistry () Education and research of the general dentistry ()

Grades	3 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Konoo T.						
Instructor(s)	Konoo T., Nagamatsu H., Onizuka C., Sogabe.K						
	Clinical training instructor : Konoo,Ngamatsu,Onizuka,Sogabe Certified dentist of the Japanese Society of Dental Practice Administration : Konoo,Onizuka Certified dentist and instructor of Japanese Orthodontic Society : Konoo Accredited Specialist of Japanese Society of Oral and Maxillofacial Surgeons:Sogabe						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-15	Understanding the educational research paper	Abstract , report and discussion	Konoo Nagamatsu u Onizuka Sogabe	Investigation the associated research paper

2019

Periodontology (Clinical Basic Course) (

Periodontology (Clinical Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka 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 planing (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

Journal of Periodontology
Pub.

Aut.

Journal of Clinical Periodontology
Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
oral examination in clinical conference	100%

Etc

Texts will be delivered in every class.

2019

Periodontology (Clinical Basic Course) (

Periodontology (Clinical Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Medical interview to patient of periodontitis	Practice	Nakashima	Review
2	Periodontal Tissue Examination (Intraoral photograph 1)	Practice	Nakashima	Review
3	Periodontal Tissue Examination (Intraoral photograph 2)	Practice	Nakashima	Review
4	Periodontal Tissue Examination (Probing)	Practice	Nakashima	Review
5	Periodontal Tissue Examination (Radiologic image reading)	Practice	Nakashima	Review
6	Periodontal Tissue Examination (Measurement and analysis of occlusal force)	Practice	Onizuka	Review
7	Periodontal Tissue Examination (Tooth mobility measurement)	Practice	Hanatani	Review
8	Design of treatment plan	Practice	Hanatani	Review
9	Effective Patient Education 1	Practice	Hanatani	Review
10	Effective Patient Education 2	Practice	Hanatani	Review
11	Effective Patient Education 3	Practice	Hanatani	Review
12	Effective Patient Education 4	Practice	Onizuka	Review
13	Effective Patient Education 5	Practice	Nakamura	Review
14	Effective Patient Education 6	Practice	Nakamura	Review
15	Ultrasonic Scaling (supragingiva)	Practice	Nakamura	Review
16	Ultrasonic Scaling (subgingiva and furcation)	Practice	Nakamura	Review
17	Scaling and Root Planing 1 (operator position)	Practice	Nakamura	Review
18	Scaling and Root Planing 2 (sharpening scaler)	Practice	Onizuka	Review
19	Scaling and Root Planing 3 (nonsurgical periodontal therapy)	Practice	Morishita	Review
20	Design of treatment plan based on reevaluation and response to periodontal therapy	Practice	Morishita	Review
21	Periodontal Surgery 1 (basic techniques in periodontal surgery; periodontal flap (full and partial thickness) and method for suturing)	Practice	Morishita	Review
22	Periodontal Surgery 2 (Flap operation)	Practice	Morishita	Review
23	Periodontal Surgery 3 (connective tissue graft)	Practice	Morishita	Review
24	Periodontal Regenerative Therapy 1 (GTR method)	Practice	Onizuka	Review
25	Periodontal Regenerative Therapy 2 (Emdogain)	Practice	Usui	Review
26	Periodontal Prosthetics	Practice	Usui	Review
27	Implants in Periodontal Therapy	Practice	Usui	Review

2019

Periodontology (Clinical Basic Course) (

Periodontology (Clinical Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka S.						

Lecture	Contents	Methods	Instructor	Preparation-Review
28	Orthodontics in Periodontal Therapy	Practice	Usui	Review
29	Practical Significance of Supportive Periodontal Theray (SPT)	Practice	Onizuka	Review
30	Clinical Conference	Practice	Usui	Review

2019

Periodontology (Periodontology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O. JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka 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 dictionary
2. Create database searching references by PubMed
3. Perform basic analysis of clinical data by statistical procedure
4. Understand procedure of meta-analysis
5. Make simple and logical sentences for scientific papers

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	60%
oral examination	40%

Etc

Text;

Life science dictionary project (<http://isd.pharm.kyoto-u.ac.jp/ja/index.html>)

JMP (statistical software) 、 EndNote (literature retrieval software)

Cochrane Reviews、 Journal of Periodontology、 Journal of Clinical Periodontology

2019

Periodontology (Periodontology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K.						
	JSCD Supervisor : Nakashima K.						
	JSP Board Certified Periodontist : Usui M.						
	JSCD Accredited Specialists : Usui M.						
	JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka S.						

Contents

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

2019

Periodontology (Clinical Conference) (

Periodontology (Clinical Conference))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka 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 periodontitis
2. Develop the knowledge of surgical and nonsurgical periodontal therapy
3. Recognize the concept of refractory chronic periodontitis
4. Learn dental treatment based on psychosomatic dentistry and respond to the patients
5. Develop the knowledge of periodontal regenerative therapy

Textbooks

Journal of Periodontology Pub.	Aut.
Journal of Clinical Periodontology Pub.	Aut.
Journal of Periodontal Research Pub.	Aut.

Reference Books

Pub.	Aut.
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Grading Criteria and Method of Evaluation

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

Etc

2019

Periodontology (Clinical Conference) (

Periodontology (Clinical Conference))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1 ~ 15	Seminar · Clinical conferences You 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 Morishita Hanatani Onizuka	Review

2019

Periodontology (Advanced Periodontal Surgery) (

Periodontology (Advanced Periodontal Surgery))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka 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 surgery
2. Select appropriate operative procedure according to cases
3. Handle and select necessary surgical instruments on periodontal surgery
4. Practice periodontal surgery under the guidance of supervisory doctor

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	60%
oral examination	40%

Etc

Texts will be delivered in every class.

2019

Periodontology (Advanced Periodontal Surgery) (

Periodontology (Advanced Periodontal Surgery))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima K.						
Instructor(s)	Nakashima K., Usui M., Nakamura T., Morishita M., Hanatani T., Onizuka O.						
	JSP Instructor : Nakashima K. JSCD Supervisor : Nakashima K. JSP Board Certified Periodontist : Usui M. JSCD Accredited Specialists : Usui M. JSP Periodontist : Nakamura T. , Morishita M. , Hanatani T., Onizuka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Flap operation using mucoperiosteal flap	lecture	Nakashima	Review
2	Flap operation using mucosal flap	lecture	Nakashima	Review
3	Flap operation You will practice flap operation using phantom and porcine jawbone.	practice	Onizuka	Review
4	Frenectomy	lecture	Hanatani	Review
5	Vestibuloplasty	lecture	Hanatani	Review
6	Periodontal plastic surgery (pedicle gingival graft)	lecture	Hanatani	Review
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	Review
10	GTR method	lecture	Morishita	Review
11	GTR method You will practice GTR method using phantom and porcine jawbone.	practice	Morishita	Review
12	Emdogein	lecture	Morishita	Review
13	Autogenous bone graft	lecture	Onizuka	Review
14	Assistance of periodontal plastic surgery You will assist periodontal plastic surgery in clinic.	practice	Usui	Review
15	Assistance of periodontal regenerative surgery You will assist periodontal regenerative surgery in clinic.	practice	Usui	Review

2019

Removable Prosthesis (Basic Course) (Removable Prosthesis (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M., Nakamura K.						
	Accredited Specialist : Arita M. Supervisor of Prosthetic Dentistry : Arita M.						

Course Description

【Language】 English and Japanese

For the patient who hopes for removable prosthetic treatment, you will learn clinical procedures and acquire the clinical maneuver. In addition, you will learn dental laboratory techniques associated with this clinical maneuver in parallel. Supervisor will evaluate whether or not you can fabricate an appropriate removable prosthesis by a clinical maneuver of oneself.

Attainment Objectives

- You can treat a removable prosthetic treatment for the partial edentulous patient.
- You can treat a removable prosthetic treatment for the edentulous patient.
- You can adjust of removable prosthesis.
- You can repair of removable prosthesis.

Textbooks

Pub. Aut.

Reference Books

Complete denture technique
Pub. Ishiyaku Pub. Inc. Aut.

Partial denture technique
Pub. Ishiyaku Pub. Inc. Aut.

Prosthetic treatment for edentulous patients
Pub. Ishiyaku Pub. Inc. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Case presentation: Partial (1), Complete (1)	30%
Case report: Partial (1), Complete (1)	20%
Denture repair or adjustment (5)	25%
Final test	25%

Etc

2019

Removable Prosthesis (Basic Course) (Removable Prosthesis (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M., Nakamura K.						
	Accredited Specialist : Arita M. Supervisor of Prosthetic Dentistry : Arita M.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1,2	Preliminary impression Making of study cast	Practice	Arita M	Preliminary impression Study cast
3,4	Making of individual tray	Practice	Arita M	Individual tray
5,6	Border molding Precise impression	Practice	Arita M	Border molding Precise impression
7,8	Making of working cast Making of occlusal plate	Practice	Arita M	Working cast
9,10	Face-bow transfer Bite taking Mount of working cast to the articulator	Practice	Arita M	Face-bow transfer Bite taking
11,12	Gothic arch tracing Remount of lower working cast	Practice	Arita M	Gothic arch tracing
13,14	Adjustment of semi-adjustable articulator	Practice	Arita M	Adjustable articulator
15,16	Check-bite technique	Practice	Arita M	Check-bite
17,18	Occlusal adjustment	Practice	Arita M	Occlusal adjustment
19,20	Test 1, Discussion	Test	Arita M	Summary
21,22	Denture adjustment 1 Direct reline method	Practice	Arita M	Tissue conditioning
23,24	Denture adjustment 2 Indirect reline method	Practice	Arita M	Reline
25,26	Denture adjustment 3 Occlusal adjustment Full balanced occlusion Lingualized occlusion	Practice	Arita M	Occlusal adjustment
27,28	Denture repair 1 Repair of base plate, artificial teeth, and clasp	Practice	Arita M	Denture repair
29,30	Test 2, Discussion	Practice	Arita M	Summary
31,32	Removable partial denture (case) Preliminary impression Study cast	Practice	Arita M	Preliminary impression Study cast
33,34	Removable partial denture (case) Design, individual tray	Practice	Arita M	Individual tray
35,36	Removable partial denture (case) Rest seat, border molding, Precise impression	Practice	Arita M	Border molding Precise impression
37,38	Removable partial denture (case) Working cast Occlusal plate	Practice	Arita M	Working cast

2019

Removable Prosthesis (Basic Course) (Removable Prosthesis (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M., Nakamura K.						
	Accredited Specialist : Arita M. Supervisor of Prosthetic Dentistry : Arita M.						

Lecture	Contents	Methods	Instructor	Preparation· Review
39,40	Removable partial denture (case) Bite taking Mount of working cast to the articulator	Practice	Arita M	Bite taking
41,42	Removable partial denture (case) Try-in	Practice	Arita M	Try-in
43,44	Removable partial denture (case) Set, adjustment patient education	Practice	Arita M	Set Patient education
45,46	Complete denture (case) Preliminary impression Study cast	Practice	Arita M	Preliminary impression Study cast
47,48	Complete denture (case) Individual tray	Practice	Arita M	Individual tray
49,50	Complete denture (case) Border molding, Precise impression	Practice	Arita M	Border molding Precise impression
51,52	Complete denture (case) Working cast Occlusal plate	Practice	Arita M	Working cast
53,54	Complete denture (case) Bite taking Mount of working cast to the articulator	Practice	Arita M	Bite taking
55,56	Complete denture (case) Try-in	Practice	Arita M	Try-in
57,58	Complete denture (case) Set, adjustment patient education	Practice	Arita M	Set Patient education
59,60	Test 3, Discussion Case presentation	Test	Arita M	Summary

2019

Removable Prosthesis (Advanced Course) (

Removable Prosthesis (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Masumi S.						
Instructor(s)	Masumi S., Makihara E.						
	Masumi S., Makihara E.						

Course Description

You will learn a basic technique for the higher special technical acquisition

Attainment Objectives

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

Textbooks

Pub. Aut.

Reference Books

Complete denture Q&A
 Pub. Nagasue Pub. Inc. Aut.

Dental magnetic attachment Q&A
 Pub. Ishiyaku Pub. Inc. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Case presentation: Flange(1)	30%
Case presentation: Magnet (1)	30%
Case report: Flange(1)	10%
Case report: Magnet (1)	10%
Final test	20%

Etc

2019

Removable Prosthesis (Advanced Course) ()

Removable Prosthesis (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Masumi S.						
Instructor(s)	Masumi S., Makihara E.						
	Masumi S., Makihara E.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1,2	Flange technique (case) Preliminary impression Study cast	Practice	Masumi S	Preliminary impression Study cast
3,4	Flange technique (case) Precise impression Working cast	Practice	Masumi S	Precise impression
5,6	Flange technique (case) Face-bow transfer Bite taking	Practice	Masumi S	Bite taking
7,8	Flange technique (case) Denture space taking	Practice	Masumi S	Denture space
9,10	Flange technique (case) Try-in Flange technique for gingival region	Practice	Masumi S	Try-in
11,12	Flange technique (case) Set, adjustment	Practice	Masumi S	Check-bite
13,14	Test 1 Case presentation	Test	Masumi S	Prepare for presentation
15,16	Magnet denture (case) Design	Practice	Makihara E	Design
17,18	Magnet denture (case) Tooth preparation, impression	Practice	Makihara E	Tooth preparation
19,20	Magnet denture (case) Fix the Keeper Precise impression	Practice	Makihara E	Precise impression
21,22	Magnet denture (case) Bite taking	Practice	Makihara E	Bite taking
23,24	Magnet denture (case) Try-in	Practice	Makihara E	Try-in
25,256	Magnet denture (case) Fix the magnetic assembly	Practice	Makihara E	Magnetic assembly
27,28	Test 2 Case presentation	Test	Makihara E	Prepare for presentation
29,30	Conclusion, final test	Test	Makihara E	Prepare for final test

2019

Removable Prosthesis (Advanced Course) ()

Removable Prosthesis (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Removable Prosthesis (Advanced Course)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Masumi S.						
Instructor(s)	Masumi S., Makihara E.						
	Masumi S., Makihara E.						

Course Description

You will learn several mouthpieces.

Attainment Objectives

- You can treat of TMD with occlusal splint.
- You can treat of Obstructive sleep apnea with oral appliance.
- You can treat for sports athlete with mouth guard.

Textbooks

Pub. Aut.

Reference Books

Occlusal splint therapy
 Pub. Hyoron Pub. Inc. Aut.

Dental treatment of OSAS
 Pub. Suna Book. Aut.

Manual of mouthguard
 Pub. Quintessence Pub. Inc. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Lecture report: OA (1), OS (1), MG (1)	30%
Case report: OA (1), OS (1), MG (1)	30%
Final test	40%

Etc

2019

Removable Prosthesis (Advanced Course) ()

Removable Prosthesis (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Removable Prosthesis (Advanced Course)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Masumi S.						
Instructor(s)	Masumi S., Makihara E.						
	Masumi S., Makihara E.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1,2	Oral appliance (case) Examination Decision of case	Practice	Makihara E	Oral appliance
3,4	Oral appliance (case) Precise impression Bite taking	Practice	Makihara E	Precise impression Bite taking
5,6	Oral appliance (case) Fabrication of OA	Practice	Makihara E	Fabrication of OA
7,8	Test 1 Case presentation	Test	Makihara E	Prepare for presentation
9,10	TMD (case) Examination Decision of case	Practice	Makihara E	TMD
11,12	TMD (case) Diagnose	Practice	Makihara E	Diagnosis
13,14	TMD (case) Precise impression Bite taking	Practice	Makihara E	Precise impression Bite taking
15,16	TMD (case) Fabrication of occlusal splint	Practice	Makihara E	Fabrication
17,18	TMD (case) Set, adjustment	Practice	Makihara E	Adjustment
19,20	Test 2 Case presentation	Test	Makihara E	Prepare for presentation
21,22	Sports mouth guard (case) Examination Decision of case	Practice	Masumi S	Sports mouth guard
23,24	Sports mouth guard (case) Precise impression Bite taking	Practice	Masumi S	Precise impression Bite taking
25,26	Sports mouth guard (case) Set, adjustment	Practice	Masumi S	Adjustment
27,28	Test3 Case presentation	Test	Masumi S	Prepare for presentation
29,30	Conclusion, final test	Test	Masumi S	Prepare for test

2019

Removable Prosthodontics (Clinical Research Design) (Removable Prosthodontics (Clinical Research Design))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Masumi S.						
Instructor(s)	Masumi S., Makihara E.						
	Masumi S. Undecided						

Course Description

You will learn about clinical research design.

Attainment Objectives

- You can write of design of clinical research

Textbooks

Designing clinical research
 Pub. Lippincott Williams & Aut. Aut.
 Wilkins

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluate by final test.	100%

Etc

2019

Removable Prosthodontics (Clinical Research Design) (Removable Prosthodontics (Clinical Research Design))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	4
Methods	Lecture	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Masumi S.						
Instructor(s)	Masumi S., Makihara E.						
	Masumi S. Undecided						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Orientation	Lecture	Undecided	Research question
3,4	Conceiving the research question	Lecture	Undecided	Study sample
5,6	Choosing the study sample	Lecture	Undecided	Measurements
7,8	Planning the measurements	Lecture	Undecided	Questionnaire
9,10	Designing questionnaire	Lecture	Undecided	Cohort study
11,12	Cohort study	Lecture	Undecided	Cross-sectional study
13,14	Cross-sectional study	Lecture	Undecided	Case-control study
15,16	Case-control study	Lecture	Undecided	Clinical examination
17,18	Clinical examination	Lecture	Masumi S	Experimental research
19,20	Experimental research	Lecture	Masumi S	Sample size
21,22	Estimating sample size	Lecture	Masumi S	Ethical issues
23,24	Ethical issues	Lecture	Masumi S	Data analysis
25,26	Data analysis	Lecture	Masumi S	Research protocol
27,28	Research protocol	Lecture	Masumi S	Research question
29.30	Conclusion, final test	Test	Masumi S	Prepare for test

2019

Removable Prosthodontics (Medical Engineering Devices) (Removable Prosthodontics (Medical Engineering Devices))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M.						

Course Description

【Language】 English and Japanese
 You will learn about clinical research design.

Attainment Objectives

- You will learn how to use of ME devices.

Textbooks

Slide making by division
 Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Lecture report: 5 points x 13	65%
Final test	35%

Etc

2019

Removable Prosthodontics (Medical Engineering Devices) (Removable Prosthodontics (Medical Engineering Devices))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Arita M.						
Instructor(s)	Arita M.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Orientation	Lecture	Arita M	Occlusion
3,4	Measurement of occlusal force	Lecture	Arita M	Occlusal force
5,6	Occluzer	Lecture	Arita M	Occluzer
7,8	Dental prescale	Lecture	Arita M	Dental prescale
9,10	Measurement of jaw movements	Lecture	Arita M	Jaw movements
11,12	MKG	Lecture	Arita M	MKG
13,14	Trimet	Lecture	Arita M	Trimet
15,16	Myo-monitor	Lecture	Arita M	Myo-monitor
17,18	Gothic display	Lecture	Arita M	Gothic display
19,20	Diagnosis of SAS	Lecture	Arita M	Diagnosis of SAS
21,22	Polysomnography	Lecture	Arita M	Polysomnography
23,24	Spirometer	Lecture	Arita M	Spirometer
25,26	Laser for dentistry	Lecture	Arita M	Laser for dentistry
27,28	CO2 Laser	Lecture	Arita M	CO2 Laser
29,30	Conclusion, final test	Test	Arita M	Summary

2019

Removable Prosthodontics (Research Discussion)

(Removable Prosthodontics (Research Discussion))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tsuda S.						
Instructor(s)	Masumi S., Arita M., Makihara E., Miyajima R.						
	Masumi S., Arita M., Makihara E., Tsuda S.						

Course Description

Gathering to read and discuss papers, articles, books, etc..

Attainment Objectives

- Critical thinking of research

Textbooks

Up to presenter
Pub.

Aut.

Reference Books

Up to presenter
Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluation of presentation	100%

Etc

2019

Removable Prosthodontics (Research Discussion)

(Removable Prosthodontics (Research Discussion))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tsuda S.						
Instructor(s)	Masumi S., Arita M., Makihara E., Miyajima R.						
	Masumi S., Arita M., Makihara E., Tsuda S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-30	Understanding of the future prospects of the study of the field of contents and association between background and latest documents of the study.	Journal club	Masumi S Arita M Makihara E Tsuda S	selection

2019

Prosthodontics Implant supported Prosthesis (

Prosthodontics Implant supported Prosthesis)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null						
	Accredited Specialist of Prosthodontics Dentistry : Hosokawa, Masaki, Kojo, Kondo, Tsuka, Supervisor of Prosthodontics Dentistry : Hosokawa, Accredited Specialist of Implant Dentistry : Hosokawa, Masaki, Supervisor of Implant Dentistry : Hosokawa,						

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

Fundamental Concepts and Techniques of Oral Implants (2nd ed.)
Pub. ISHIYAKU PUBLISHERS, INC. Aut.

Implant Positioning (Practice in Prosthodontics Extra Issue)
Pub. ISHIYAKU PUBLISHERS, INC. Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
*1	60%
*2	40%

*1 Responses upon consultation with instructors during the practice

*2 Contents and attitudes at the case conferences

Etc

2019

Prosthodontics Implant supported Prosthesis (Prosthodontics Implant supported Prosthesis)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null Accredited Specialist of Prosthodontics Dentistry : Hosokawa, Masaki, Kojo, Kondo, Tsuka, Supervisor of Prosthodontics Dentistry : Hosokawa, Accredited Specialist of Implant Dentistry : Hosokawa, Masaki, Supervisor of Implant Dentistry : Hosokawa,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-4	Orientation “ What is implant supported prosthesis? ” You will learn about the significance of implant treatment in dental medicine.	Lecture	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
5-12	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 Tamura	Review handouts
13-20	Anatomy important for implant treatment Pathology of dental implant You will learn about anatomy and pathology crucial for implant treatment.	Lecture	Hosokawa Masaki Kondo Mukaibo Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	Review handouts

2019

Prosthodontics Implant supported Prosthesis ()

Prosthodontics Implant supported Prosthesis)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null Accredited Specialist of Prosthodontics Dentistry : Hosokawa, Masaki, Kojo, Kondo, Tsuka, Supervisor of Prosthodontics Dentistry : Hosokawa, Accredited Specialist of Implant Dentistry : Hosokawa, Masaki, Supervisor of Implant Dentistry : Hosokawa,						

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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
*1	60%
*2	40%

*1 Responses upon consultation with instructors during the practice
*2 Contents and attitudes at the case conferences

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.

2019

Prosthodontics Implant supported Prosthesis (Prosthodontics Implant supported Prosthesis)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null Accredited Specialist of Prosthodontics Dentistry : Hosokawa, Masaki, Kojo, Kondo, Tsuka, Supervisor of Prosthodontics Dentistry : Hosokawa, Accredited Specialist of Implant Dentistry : Hosokawa, Masaki, Supervisor of Implant Dentistry : Hosokawa,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-4	Informed consent You will learn about the informed consent necessary for dental implant treatment.	Lecture and practice	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
5-11	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 Tamura	Review handouts
12-18	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 Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	Review handouts

2019

Oral Reconstruction and Rehabilitation (Oral Reconstruction and Rehabilitation)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null						

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 dysfunctional 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 and experimental skills on in vivo and in vitro xerostomia models using mouse salivary glands.

Textbooks

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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.

2019

Oral Reconstruction and Rehabilitation (Oral Reconstruction and Rehabilitation)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibo T., null						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Orientation (What is the significance of practicing basic research in clinical course?)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
2	Literature reading 1 (How to read scientific literature? How should scientific presentation be like?)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
3	Literature reading 2 (How to search for referential materials? What makes your research valuable?)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
4	How you should use the laboratory 1 (Basics in handling laboratory equipment)	Exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
5	How you should use the laboratory 2 (Basics in handling and preparing experimental reagents)	Exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
6	Gene extraction and analysis from oral mucosa samples 1 (Sampling and treatments)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
7	Gene extraction and analysis from oral mucosa samples 2 (Analysis of genetic polymorphism)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
8	Investigation on the effect of ultrasonic waves on gene expression of oral mucosa cells	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	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 Tamura	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 Tamura	Review handouts

2019

Oral Reconstruction and Rehabilitation (Oral Reconstruction and Rehabilitation)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null						

Course Description

【Language】 English and Japanese

This course is an advanced course for the “ Oral Reconstruction and Rehabilitation ” . 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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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.

2019

Oral Reconstruction and Rehabilitation (Oral Reconstruction and Rehabilitation)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibo T., null						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
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 Tamura	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 Tamura	Review handouts
3	Gene extraction and analysis from oral mucosa samples 2 (Sample taking from oral mucosa and pretreatments)	Exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
4	Gene extraction and analysis from oral mucosa samples 3 (Learning methods on PCR and electrophoresis)	Exercise	Hosokawa Masaki Kondo Mukaibo Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	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 Tamura	Review handouts

2019

Oral Reconstruction and Rehabilitation (Oral Reconstruction and Rehabilitation)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null						

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

Pub. _____ Aut. _____

Reference Books

Pub. _____ Aut. _____

Grading Criteria and Method of Evaluation

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.

2019

Oral Reconstruction and Rehabilitation (Oral Reconstruction and Rehabilitation)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Orientation (Have discussion with the instructors on the theme of each research)	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
2-15	Each instructor will be assigned to lead and carry out each research.	Lecture and exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts

2019

Advanced Oral Reconstruction and Rehabilitation (Advanced Oral Reconstruction and Rehabilitation)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compusory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Contents of the presentation	60%
*1	40%

Attendance, participation and comprehension in the discussion

Etc

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

2019

Advanced Oral Reconstruction and Rehabilitation (Advanced Oral Reconstruction and Rehabilitation)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compusory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Hosokawa R.						
Instructor(s)	Hosokawa R., Masaki C., Kondou Y., Mukaibou T., null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Orientation	Exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts
2-15	Each allocated should review a paper of ones selection. You should prepare handouts and make a presentation.	Exercise	Hosokawa Masaki Kondo Mukaibo Tamura	Review handouts

2019

Internal Medicine for Dentistry (Internal Medicine for Dentistry)

Grades	1 ~ 2 grades	Semester (or Term)	Winter	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	I. Nakamichi						
Instructor(s)	Nakamichi I.						
	I. Nakamichi						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Learning attitude	50%
Oral examination	50%

Etc

2019

Internal Medicine for Dentistry (Internal Medicine for Dentistry)

Grades	1 ~ 2 grades	Semester (or Term)	Winter	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	I. Nakamichi						
Instructor(s)	Nakamichi I.						
	I. Nakamichi						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-3	Circulation and Blood	Discussion	Nakamichi	Reading books
4-6	Respiration and Digestion	Discussion	Nakamichi	Reading books
7-9	Metabolism and Renal function	Discussion	Nakamichi	Reading books
10-12	Neurology and Mental disorder	Discussion	Nakamichi	Reading books
13-15	Immunology and Oncology	Discussion	Nakamichi	Reading books

2019

Diagnosis and Treatment of Hypertension (Diagnosis and Treatment of Hypertension)

Grades	1 ~ 3 grades	Semester (or Term)	Winter	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						
	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 hypertension and target organ damage. Furthermore, you learn the treatment of hypertension. 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 understand the epidemiology of hypertension.
- To understand the mechanism of blood pressure regulation.
- To understand the evaluation of target organ damage due to hypertension.
- To understand target organ damage of hypertension (stroke, ischemic heart disease, chronic kidney disease).
- To understand the types and characteristics of antihypertensive drugs.
- To understand the characteristics and treatment of hypertension in the elderly.
- To understand the treatment of hypertension in the patients with diabetes or metabolic syndrome.

Textbooks

The Japanese Society of Hypertension Guidelines for the Management of Hypertension 2014
 Pub. JSH

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
attitude	20%
presentation	50%

Etc

2019

Diagnosis and Treatment of Hypertension (Diagnosis and Treatment of Hypertension)

Grades	1 ~ 3 grades	Semester (or Term)	Winter	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						
	Fukuhara M.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Introduction and epidemiology of hypertension	Lecture	Fukuhara	Text
2	Mechanism of blood pressure regulation: Neural and humoral regulation of blood pressure	Lecture	Fukuhara	Text
3	Measurement and clinical evaluation of blood pressure	Lecture	Fukuhara	Text
4	Clinical evaluation of target organ damage I	Lecture	Fukuhara	Text
5	Clinical evaluation of target organ damage II: Electrocardiogram and echocardiogram	Lecture	Fukuhara	Text
6	Hypertension and target organ damage	Lecture	Fukuhara	Text
7	Principles of treatment for hypertension	Lecture	Fukuhara	Text
8	Principles of treatment for hypertension: Lifestyle modifications	Lecture	Fukuhara	Text
9	Principles of treatment for hypertension: Treatment with antihypertensive drugs	Lecture	Fukuhara	Text
10	Hypertension complicated by other diseases	Lecture	Fukuhara	Text
11	Hypertension in the elderly	Lecture	Fukuhara	Text
12	Secondary hypertension	Lecture	Fukuhara	Text
13	Case conference I	Lecture, Discussion	Fukuhara	Text
14	Case conference II	Lecture, Discussion	Fukuhara	Text
15	Case conference III	Lecture, Discussion	Fukuhara	Text

2019

Introduction of Internal Medicine (Introduction of Internal Medicine)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						
	Fukuhara M. Nakamichi I. Ide H.						

Course Description

【Language】 Japanese

In this course "Introduction of Internal Medicine", you read the book "Introduction of Internal Medicine for the Dentistry, 3rd edition" and acquire fundamental knowledge of the internal medicine which dentists need.

Attainment Objectives

You should achieve following assignments;

- To understand the introduction of medical diagnostics.
- To understand the cardiovascular disease.
- To understand the respiratory disease.
- To understand the digestive diseases.
- To understand the metabolic and endocrine disorders.
- To understand the neuromuscular disease.
- To understand the blood disease.
- To understand the renal disease.
- To understand the collagen disease.
- To understand the elderly medicine.

Textbooks

Introduction of Internal Medicine for the Dentistry
 Pub. Nankodo Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	30%
tests	70%

Etc

2019

Introduction of Internal Medicine (Introduction of Internal Medicine)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Fukuhara M.						
Instructor(s)	Fukuhara M.						
	Fukuhara M. Nakamichi I. Ide H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	The fundamental knowledge of the internal medicine: Diagnosis, medical interview, physical examination, medical record description, vital signs, laboratory tests.	Lecture and test	Fukuhara	Text
2	Respiratory disease	Lecture and test	Fukuhara	Text
3	Gastrointestinal disease	Lecture and test	Fukuhara Nakamichi	Text
4	Liver, biliary, pancreatic disease	Lecture and test	Fukuhara Nakamichi	Text
5	Endocrine disease	Lecture and test	Fukuhara Ide	Text
6	Metabolic diseases	Lecture and test	Fukuhara Ide	Text
7	Cardiovascular disease I	Lecture and test	Fukuhara	Text
8	Cardiovascular disease II	Lecture and test	Fukuhara	Text
9	Neuromuscular disease	Lecture and test	Fukuhara	Text
10	Blood disease	Lecture and test	Fukuhara	Text
11	Kidney disease	Lecture and test	Fukuhara	Text
12	Collagen disease and allergic disease	Lecture and test	Fukuhara	Text
13	Elderly medicine	Lecture and test	Fukuhara	Text
14	Review and test	Lecture and test	Fukuhara	Text
15	Review and test	Lecture and test	Fukuhara	Text

2019

Pediatric Dentistry (Basic Course) (Pediatric Dentistry (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧 憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K.						
	渡辺 幸嗣						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
average of tests	100%

Etc

2019

Pediatric Dentistry (Basic Course) (Pediatric Dentistry (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧 憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K. 渡辺 幸嗣						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
1,2	Medical care interview II	Practical training Role play	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Medical care interview Mental and physical growth of children
3,4	Behavior modification therapy for pedodontic patients I	Practical training Role play	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Mental and physical growth of children Behavior modification therapy
5,6	Radiography I	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Diagnostic imaging for pedodontic cases
7,8	Impression taking	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Developmental growth of oral cavity in
9,10	Drafting of the treatment plan You learn a diagnosis, treatment strategy while standing on a medical interview, an X-ray photograph, the treatment plan using the study model about the drafting of the treatment plan	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Diagnosis, treatment strategy
11,12	Oral examination 1 Discussion Case presentation	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Review of the training
13,14	Local anesthesia I	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Procedure of local anesthesia
15,16	Exclusion of moisture with rubber dam	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Exclusion of moisture with rubber dam
17,18	Crown restoration for primary teeth I	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Characteristics of primary teeth Coronal

2019

Pediatric Dentistry (Basic Course) (Pediatric Dentistry (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧 憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K. 渡辺 幸嗣						

Lecture	Contents	Methods	Instructor	Preparation· Review
19,20	Crown restoration for immature permanent teeth I	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Characteristics of immature permanent teeth Crown
21,22	Inlay restoration of the deciduous teeth	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Inlay restoration of the deciduous teeth
23,24	Preformed crown restoration of the deciduous teeth	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Preformed crown restoration Casting crown restoration
25,26	Pulp capping of deciduous tooth and the immature permanent tooth	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Pulp Capping
27,28	Pulpotomy to deciduous tooth	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Pulpyomy
29,30	Pulpectomy, Infection Root Canal Treatment, Root Canal Filling	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Pulpectomy Infected Root Canal Treatment Root Canal Filling
31,32	Oral examination 2 Discussion	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Review of the training
33,34	A diagnosis and measures of periodontal disease	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Periodontal disease of the infant period diagnosis and measures
35,36	Diagnosis of the dental trauma	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Diagnosis Fixing method prognosis
37,38	Tooth extraction I	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> Diagnosis Tooth extraction

2019

Pediatric Dentistry (Basic Course) (Pediatric Dentistry (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧 憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K. 渡辺 幸嗣						

Lecture	Contents	Methods	Instructor	Preparation· Review
39,40	Resolution measure	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Diagnosis • Fenestration • Incision
41,42	Oral examination 2 Discussion	Practical training	Maki Nishida Saeki Fujita watanabe	Review of the training
43,44	Preventive treatment	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Pit and fissure sealant
45,46	Preventive treatment II	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Preventive treatment • Health guidance
47,48	Treatment of apprehensive child	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Restraining • Nitrous oxide and oxygen inhalation sedation
49,50	The Denture guidance diagnosis and explanation method to a protector	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Diagnosis • Treatment plan and explanation
51,52	Preparation of appliances for occlusal guidance I	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Space maintenance
53,54	Preparation of appliances for occlusal guidance II	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Space Regainer
55,56	Dental treatment of the child with a disability	Practical training	Maki Nishida Saeki Fujita watanabe	<ul style="list-style-type: none"> • Child with disability
57,58	Oral examination 4 Discussion	Practical training	Maki Nishida Saeki Fujita watanabe	Review of the practical training

2019

Pediatric Dentistry (Basic Course) (Pediatric Dentistry (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧 憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K.						
	渡辺 幸嗣						

Lecture	Contents	Methods	Instructor	Preparation·Review
59,60	Case presentation Examination for accreditation	Practical training	Maki Nishida Saeki Fujita watanabe	Review of the practical training

2019

Pediatric Dentistry (Advanced Course) (Pediatric Dentistry (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I.						
	Pediatric Dentistry Specialist : Maki, Nishida, Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida,						

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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Pediatric Dentistry (Advanced Course) (Pediatric Dentistry (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I. Pediatric Dentistry Specialist : Maki, Nishida, Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1,2	Medical care interview II	Practical training Role play	Maki Nishida	<ul style="list-style-type: none"> Medical care interview Adjacent area of medical science
3,4	Behavior modification therapy for pedodontic patients II	Practical training Role play	Maki Nishida	<ul style="list-style-type: none"> Mental and physical growth of children -Behavior modification therapy
5,6	Radiography II	Practical training	Maki Nishida	<ul style="list-style-type: none"> Diagnostic imaging for pedodontic cases
7,8	Oral roentgenography	Practical training	Maki Nishida	<ul style="list-style-type: none"> Developmental growth of oral cavity in
9,10	Whole-body management	Practical training	Maki Nishida	<ul style="list-style-type: none"> Pharmacotherapy Systemic illness
11,12	Oral examination 1 Discussion Case presentation	Practical training	Maki Nishida	Review of practical training
13,14	Local anesthesia II	Practical training	Maki Nishida	<ul style="list-style-type: none"> Complications
15,16	Crown restoration for primary teeth I	Practical training	Maki Nishida	<ul style="list-style-type: none"> Characteristics of primary teeth Resin jacket
17,18	Crown restoration in child patients	Practical training	Maki Nishida	<ul style="list-style-type: none"> Crown restoration Continued management
19,20	Temporary indirect pulp capping for immature permanent teeth	Practical training	Maki Nishida	<ul style="list-style-type: none"> Immature permanent teeth Temporary indirect pulp capping
21,22	Endodontic treatment for immature permanent teeth	Practical training	Maki Nishida	<ul style="list-style-type: none"> Immature permanent teeth Endodontic treatment

2019

Pediatric Dentistry (Advanced Course) (Pediatric Dentistry (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I. Pediatric Dentistry Specialist : Maki, Nishida, Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida,						

Lecture	Contents	Methods	Instructor	Preparation· Review
23,24	Diagnosis and treatment for acute symptoms of diseases of the pulp, apex, and periodontium	Practical training	Maki Nishida	<ul style="list-style-type: none"> Acute symptom Diagnosis and treatment
25,26	Diagnosis and treatment for tooth discoloration	Practical training	Maki Nishida	<ul style="list-style-type: none"> Tooth discoloration Diagnosis and treatment
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	Maki Nishida	<ul style="list-style-type: none"> Intractable cases Diagnosis and treatment
29,30	Oral examination 2 Discussion	Practical training	Maki Nishida	Review of practical training
31,32	Study continuing management of periodontal diseases in child patients in light of the characteristics of periodontal diseases occurring in childhood.	Practical training	Maki Nishida	<ul style="list-style-type: none"> Periodontal surgery Continuing management
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	Maki Nishida	<ul style="list-style-type: none"> Diagnosis Fixation technique Prognosis
35,36	Treatment of injured teeth Study reimplantation techniques in light of related indications. Practical training	Practical training	Maki Nishida	<ul style="list-style-type: none"> Injured teeth Reimplantation Orthodontic extrusion
37,38	Tooth extraction II Study tooth extraction methods in light of examination findings and diagnosis of impacted supernumerary teeth.	Practical training	Maki Nishida	<ul style="list-style-type: none"> Extraction methods Impacted supernumerary teeth
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	Maki Nishida	<ul style="list-style-type: none"> Surgical procedures
41,42	Oral examination 3 Discussion	Practical training	Maki Nishida	Review of practical training
43,44	Preparation of appliances for occlusal guidance III	Practical training	Maki Nishida	<ul style="list-style-type: none"> Space regainer
45,46	Preparation of appliances for occlusal guidance Study methods used for manufacturing a Muh-shield by taking into consideration the indications.	Practical training	Maki Nishida	<ul style="list-style-type: none"> Muh-shield
47,48	Muscle function training	Practical training	Maki Nishida	<ul style="list-style-type: none"> Muscle function training
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	Maki Nishida	<ul style="list-style-type: none"> Disabled children Behavior control Dental therapy

2019

Pediatric Dentistry (Advanced Course) (Pediatric Dentistry (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I. Pediatric Dentistry Specialist : Maki, Nishida, Specialist in Pediatric dentistry Specialist instruction : Maki, Nishida,						

Lecture	Contents	Methods	Instructor	Preparation· Review
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	Maki Nishida	• General anesthesia
53,54	Study intraoral management by taking developmental stage into consideration. Practical training	Practical training	Maki Nishida	• Developmental stages -ntraoral
55,56	Study maternal and child health guidance in light of prevention for pregnant women and feeding instructions for children.	Practical training	Maki Nishida	• Pregnancy factors • Maternal and child health care
57,58	Oral examination 4 Discussion	Discussion Practical training	Maki Nishida	Review of practical training
59,60	Case presentation Examination for accreditation	Discussion Practical training	Maki Nishida	Review of practical training

2019

Developmental Stomatognathic Function Science (Developmental Stomatognathic Function Science)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Developmental Stomatognathic Function Science ()

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K. 牧 憲司、西田 郁子、渡辺幸嗣、藤田 優子、佐伯 桂						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Orientation	Lecture	Maki	Practice · Pediatric dentistry outline
2	Growth of teeth and the dentition	Lecture Practice	Fujita	Case report, commentary of the topics · Tooth development
3	Mechanism of the teeth eruption	Lecture Practice	Watanabe	Case report, commentary of the topics · Tooth eruption
4	Endodontic treatment of the deciduous tooth	Lecture Practice	Saeki	Case report, commentary of the topics · Endodontics for deciduous teeth
5	Endodontic treatment of the immature permanent tooth	Lecture Practice	Maki	Case report, commentary of the topics · Endodontics for immature permanent teeth
6	Teeth trauma of the childhood	Lecture Practice	Nishida	Case report, commentary of the topics · Trauma
7	Space Maintenance	Lecture Practice	Maki	Case report, commentary of the topics · Space maintain
8	Active Denture Guidance	Lecture Practice	Maki	Case report, commentary of the topics · Active Denture Guidance
9	Coronal restoration of deciduous tooth and the early permanent tooth	Lecture Practice	Nishida	Case report, commentary of the topics · Coronal restoration of deciduous and immature permanent tooth
10	Dental treatment of the child with a disability	Lecture Practice	Watanabe	Case report, commentary of the topic · disability
11	Correspondence to trauma teeth of the childhood	Lecture Practice	Nishida	Case report, commentary of the topics · Trauma

2019

Developmental Stomatognathic Function Science ()

Developmental Stomatognathic Function Science)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K. 牧 憲司、西田 郁子、渡辺幸嗣、藤田 優子、佐伯 桂						

Lecture	Contents	Methods	Instructor	Preparation-Review
12	Surgical treatment of children (I)	Lecture Practice	Maki	Case report, commentary of the topics ・ Surgery
13	Surgical treatment of children (II)	Lecture Practice	Maki Nishida Fujita Watanabe Saeki	Case report, commentary of the topics ・ Surgery
14	Generl Discussion	Lecture Practice	Maki	Case report, commentary of the topics about pediatric dentistry
15	Test	Lecture Practice	Maki	Case report, commentary of the topics about pediatric dentistry

2019

Developmental Stomatognathic Function Science (Case Conference) (Developmental Stomatognathic Function Science (Case Conference))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K. 牧 憲司、西田 郁子、渡辺幸嗣、藤田 優子、佐伯 桂						

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 activities.
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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
average of Tests	100%

Etc

2019

Developmental Stomatognathic Function Science (Case Conference) (Developmental Stomatognathic Function Science (Case Conference))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maki K.						
Instructor(s)	Maki K., Nishida I., Fujita Y., Morikawa K., Saeki K. 牧 憲司、西田 郁子、渡辺幸嗣、藤田 優子、佐伯 桂						

Contents

Lecture	Contents	Methods	Instructor	Preparation・Review
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 Commentary	Maki K Nishida I Watanabe K Saeki K Fujita Y	Original Articles, commentary of the topics about pediatric dentistry ・ outline of pedodontics

2019

Developmental Stomatognathic Function Science () Developmental Stomatognathic Function Science)

Grades	1 ~ 4年次	Semester (or Term)	All Season	Subject	Developmental Stomatognathic Function Science	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧 憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki 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

Basic and clinical Practical in Pedodontics

Pub. Ishiyaku Bub, Inc.

Aut. Maki K, Fujita Y, Saeki K

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Developmental Stomatognathic Function Science ()

Developmental Stomatognathic Function Science)

Grades	1 ~ 4年次	Semester (or Term)	All Season	Subject	Developmental Stomatognathic Function Science	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	牧 憲司						
Instructor(s)	Maki K., Nishida I., Fujita Y., Saeki K. 牧 憲司、西田 郁子、渡辺 幸嗣、藤田 優子、佐伯 桂、向坊友宏						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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, Commentary, and Practical work	Maki K Nishida I Watanabe K Saeki K Fujita Y Mukaibo T	Commentary on the topics in the field of pediatric dentistry. • Outline of Pedodontics

2019

Orthodontics (Basic) (Orthodontics (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi 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

Pub. Aut.

Reference Books

Contemporary Orthodontics, 6th Edition

Pub. Mosby Aut. W. R. Proffit

Basics of head X-ray standard

Pub. Quintessence Aut. K. Miyashita

The latest orthodontic atlas

Pub. Ishiyaku publishers Aut. N. Inoue

Orthodontics, 5th Edition

Pub. Ishiyaku publishers Aut. K. Soma et al.

Orthodontic clinical series 1 "malocclusion"

Pub. Ishiyaku publishers Aut. Susami T., Chugo T.

Orthodontic clinical series 2 "malocclusion"

Pub. Ishiyaku publishers Aut. Yamauchi k., Sakuta M.

Orthodontic clinical series 3 "open bite"

Pub. Ishiyaku publishers Aut. Kawada T., Ozeki T.

Orthodontic clinical series 4 "crowding"

Pub. Ishiyaku publishers Aut. Matsumoto M., Nakagawa H.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Judgments by the Tests.	50%
After the lecture to the exam (exam and lab).	50%

After the lecture to the exam (exam and lab).

Each lecture and lab personnel to questions. Answers to written.

2019

Orthodontics (Basic) (Orthodontics (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Etc

2019

Orthodontics (Basic) (Orthodontics (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjigake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjigake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Preparation of diagnostic materials, impression, creating a gnathostatic model, Cephalometric tracing, Model analysis, Cephalometric analysis You will master the method of the evaluation skills based on basic diagnostic data.	Lecture Practice	Kawamoto	Review of reference books and handouts
2	Diagnostics, Tooth extraction, Model set-up, Treatment planning, Orthodontic appliance. You will master basic treatment planning and treatment methods skills based on basic diagnostic.	Lecture Practice	Kawamoto	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.	Lecture Practice	Kawamoto	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	Gunjigake	Review of reference books and handouts
5	Orthodontic force and tooth movement, Anchorage, Biologic control of tooth movement, Orthodontic implants You will master the principles of tooth movement and learn the orthotic devices.	Lecture	Shiga	Review of reference books and handouts
6	Tissue reactions and orthodontic force You 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	Gunjigake	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 biology You 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 materials You will learn about the characteristics of the materials required for orthodontic treatment and its selection	Lecture	Gunjigake	Review of reference books and handouts
10	Each orthodontic appliance usage and mechanisms of action You will learn about the basic orthodontic structure and mechanism of action, indications, considerations.	Lecture	Gunjigake	Review of reference books and handouts
11	Multibracket technique You will learn about multibracket structure and active orthodontic treatment	Lecture Practice	Gunjigake	Review of reference books and handouts
12	Orthodontic treatment for facial deformity You will learn about surgical orthodontic treatment based on facial deformity for therapeutic purpose, indications, treatment procedures.	Lecture	Shiga	Review of reference books and handouts
13	Malocclusion due to congenital anomalies You will learn about malocclusion due to congenital anomalies, which include causes, systemic findings and malocclusion.	Lecture	Shiga	Review of reference books and handouts

2019

Orthodontics (Basic) (Orthodontics (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Lecture	Contents	Methods	Instructor	Preparation-Review
14	Bone graft for patient of cleft lip and palate You will learn about secular orthodontic treatment for cleft lip and palate and learn growth and development	Lecture	Kawamoto	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	Kawamoto	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	Shiga	Review of reference books and handouts
17	Dentition and occlusion, and Craniofacial growth and development You will learn about Craniofacial growth and development, tooth, dentition and occlusion, normal growth and development.	Lecture	Shiga	Review of reference books and handouts
18	Growth and development with orthodontic treatment You will learn about various types of malocclusion and secular treatment based on the growth and development	Lecture	Shiga	Review of reference books and handouts
19	Occlusion with development concepts You will learn about Occlusion with development based on secular growth and development, malocclusion.	Lecture	Shiga	Review of reference books and handouts
20	A comprehensive dental treatment You will learn about team approach with overall treatment for oral.	Lecture	Kawamoto	Review of reference books and handouts

2019

Orthodontics (Basic) (Orthodontics (Basic))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi 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

Pub. Aut.

Reference Books

The latest orthodontic atlas
Pub. ishiyaku publishers inc Aut. N. Inoue

Contemporary Orthodontics, 6th Edition
Pub. Mosby Aut. William R. Proffit

Grading Criteria and Method of Evaluation

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.

2019

Orthodontics (Basic) (Orthodontics (Basic))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Preparation of diagnostic materials (Oral photo, Facial photo) impression, creating a gnathostatic model, Cephalometric tracing, Model analysis, Cephalometric analysis You will master the method of the diagnostic material taking skills with oral photo and facial photo.	Practice	Kuroishi	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 (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
4	Basic practice (Lingual arch) You will master the technique of the lingual arch and method of adjustment.	Practice	Gunjigake	Preparation for a basic practice manual, The latest orthodontic atlas
5	Basic practice (Lingual arch) You will master the technique of the lingual arch and method of adjustment.	Practice	Gunjigake	Preparation for a basic practice manual, The latest orthodontic atlas
6	Basic practice (Lingual arch) You will master the technique of the lingual arch and method of adjustment.	Practice	Gunjigake	Preparation for a basic practice manual, The latest orthodontic atlas
7	Basic practice (Activator) You will learn the method of construction bite and functional orthodontic appliances and method of adjustment.	Practice	Shiga	Preparation for a basic practice manual, The latest orthodontic atlas
8	Basic practice (Activator) You will learn the method of construction bite and functional orthodontic appliances and method of adjustment.	Practice	Shiga	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	Shiga	Preparation for a basic practice manual, The latest orthodontic atlas
10	Basic practice (Retainer) You will learn about Begg type retainer and method of adjustment.	Practice	Shiga	Preparation for a basic practice manual, The latest orthodontic atlas
11	Basic practice (Retainer) You will learn about Begg type retainer and method of adjustment.	Practice	Shiga	Preparation for a basic practice manual, The latest orthodontic atlas

2019

Orthodontics (Basic) (Orthodontics (Basic))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Lecture	Contents	Methods	Instructor	Preparation-Review
12	Orofacial function and analysis and evaluation You 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
13	Orofacial function and analysis and evaluation You will learn basic Orofacial function inspection equipment based on its usage method and analysis data.	Practice	Kawamoto	Preparation for a basic practice manual, The latest orthodontic atlas
14	Presentation Based on the usage of digital data capture and PowerPoint, Photo shop, learn to create a presentation.	Practice	Kawamoto	Preparation for a clinical manual
15	Presentation Based on the usage of digital data capture and PowerPoint, Photo shop, learn to create a presentation.	Practice	Kawamoto	Preparation for a clinical manual

2019

Orthodontics (Typodont exercise) (Orthodontics (Typodont exercise))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi 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

Pub. Aut.

Reference Books

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

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluation of the instructor for each step.	50%
Present each steps and discuss.	50%

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

Etc

2019

Orthodontics (Typodont exercise) (Orthodontics (Typodont exercise))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjigake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjigake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Preparation of Typodont 1 You 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	Kuroishi	Typodont syllabus preparation and review
2	Preparation of Typodont 1 You 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	Kuroishi	Typodont syllabus preparation and review
3	Preparation of Typodont 1 You 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	Kuroishi	Typodont syllabus preparation and review
4	Wire bending 1 Learn about standard edgewise arch wire morphology and bending round wire.	Practice	Shiga	Typodont syllabus preparation and review
5	Wire bending 2 Learn about standard edgewise rectangular wire and bend.	Practice	Shiga	Typodont syllabus preparation and review
6	Wire bending 3 Learn about the adjustment of the arch wire and bending.	Practice	Shiga	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	Gunjigake	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	Gunjigake	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	Gunjigake	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	Kawamoto	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	Kawamoto	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

2019

Orthodontics (Typodont exercise) (Orthodontics (Typodont exercise))

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Lecture	Contents	Methods	Instructor	Preparation· Review
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

2019

Orthodontics (Clinical training) (Orthodontics (Clinical training))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi 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

Pub. Aut.

Reference Books

Contemporary orthodontics
Pub. Aut. W. R. Profit

Common Sense Mechanics
Pub. Aut. Thomas. Mulligan

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluation of the instructor for each step.	50%
Present each steps and discuss.	50%

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

Etc

2019

Orthodontics (Clinical training) (Orthodontics (Clinical training))

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	1
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjigake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjigake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-3	Enforcement of biomechanics You will learn affecting biomechanics by considering the diagnostic materials through orthodontic patients.	Lectures practice	Kawamoto Shiga Gunjigake Kuroishi	Summary of each steps from diagnosis to end of treatment
4-6	Analysis and evaluation of the treatment effect You will learn orthodontic treatment by considering the analysis and evaluation of the treatment effect.	Lectures practice	Kawamoto Shiga Gunjigake Kuroishi	Summary of each steps from diagnosis to treatment
7-9	Analysis and evaluation of growth and development You will learn orthodontic treatment by considering the evaluation of growth and development.	Lectures practice	Kawamoto Shiga Gunjigake Kuroishi	Summary of each steps from diagnosis to treatment
10-12	Orthodontic materials and movement of the tooth You will learn orthodontic treatment by considering the orthodontic materials and movement of the tooth.	Lectures practice	Kawamoto Shiga Gunjigake Kuroishi	Summary of each steps from diagnosis to treatment
13-15	Analysis and evaluation of Orofacial function (chewing, occlusion, breathing) You will learn Orofacial function by considering the evaluation to chewing, occlusion, breathing. Orofacial function in learning.	Lectures practice	Kawamoto Shiga Gunjigake Kuroishi	Summary of each steps from diagnosis to treatment

2019

Orofacial Function and Orthodontics (Orofacial Function and Orthodontics)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi, Morita 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

Pub. Aut.

Reference Books

Contemporary Orthodontics, 6th Edition
 Pub. Mosby Aut. William R. Proffit

Color atlas X-ray anatomy and cephalometric analysis
 Pub. Quintessence Aut. K. Miyashita

Orthodontics Current Principles & Techniques
 Pub. ELSEVER/MOSBY Aut. T.M.Grabner

Grading Criteria and Method of Evaluation

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

2019

Orofacial Function and Orthodontics (Orofacial Function and Orthodontics)

Grades	1 grade	Semester (or Term)	All Season	Subject	Compulsory (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi, Morita Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-3	Literature search and organize You will learn about research based on literature search and how to organize research.	Lectures seminars	Kawamoto Shiga Gunjikake Kuroishi	The use of the Internet, PubMed Understanding of the usage, usage of File maker
4-7	Background of the research and literature summary You will learn about research based on literature search and how to organize research.	Exercises and small group seminars	Kawamoto Shiga Gunjikake Kuroishi	Preparation for the consolidation of the literature using literature using PubMed for your collect
8-9	Biology, genetics, molecular cell and orthodontic treatment You will learn the research through orthodontic treatment orthodontic treatment information based on genetics and molecular cell biology.	Exercises and small group seminars	Kawamoto Shiga Gunjikake Kuroishi	Preparation for the consolidation of the literature using literature using PubMed for your collect
10-12	Discussion of the research methodology You will learn how to appeal your research topics through the result of research.	Exercises and small group seminars	Kawamoto Shiga Gunjikake Kuroishi	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	Exercises and small group seminars	Summarization of domestic and international related to the theme of your article

2019

Orofacial Function and Orthodontics (Orofacial Function and Orthodontics)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi 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 analysis and collect information for research.
5. To get ability of considering the methodology of research.
6. To get ability of writing the article and submitting.

Textbooks

Pub. Aut.

Reference Books

Contemporary Orthodontics, 6th Edition

Pub. Mosby Aut. W. R. Proffit

Comprehensive Cleft Care

Pub. CRC Press Aut. Joseph Losee, Richard E. Kirschner

Atlas of Orthodontic Treatment for Patients with Birth Defects

Pub. Needham Press, Inc. Aut. Takayuki Kuroda, Kimie Ohyama

New atlas of congenital anomaly

Pub. Nanzando Publishing Aut. T. Kajii

Contemporary Treatment of Dentofacial Deformity

Pub. Mosby Aut. W.R.Proffit

Gorlin's Syndrome of the Head and Neck

Pub. Oxford University Aut. Hennekam/Krantz/Allanson

Grading Criteria and Method of Evaluation

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

2019

Orofacial Function and Orthodontics (Orofacial Function and Orthodontics)

Grades	2 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-2	Orofacial function and occlusion with development concept. You will learn the history of occlusion by understanding the basics of Orofacial function.	Lecture seminar	Kawamoto	Review handouts
3-4	Developments of Orofacial Function and Orthodontics research You will learn to understand the basic and clinical research related to orthodontic correction of consensus.	Lecture seminar	Kawamoto	Review of 1 grade lectures
5	Histological changes during experimental tooth movement You will learn about reaction of teeth and periodontal tissue by orthodontic tooth movement.	Lecture seminar	Shiga	Review of 1 grade lectures
6-7	Mechanics of tooth movement You will learn about tooth movement which include Tipping, Bodily movement, Intrusion, Extrusion, Rotation, Torque.	Lecture seminar	Gunjigake	Typodont syllabus
8	Biology, Molecular cell biology, Genetics and Orthodontic treatment To understand the basic science, to learn the need for orthodontic treatment.	Lecture seminar	Gunjigake	Review of first year lectures
9-11	Background of the research and literature research You need to presentation of the academic background of your research.	Lecture seminar	Gunjigake	Create a Power point on each research, individually
12-14	Presentation of the background of the research and literature research You need to presentation of your research (Research presses etc.).	Lecture seminar	Gunjigake	Create a Power point on each research, individually
15-17	Methodology for the research You will learn about the methodology of your research based on literature search and gathered information.	Lecture seminar	Kuroishi	Create a Power point on each research, individually
18-19	Announcement of research methodology You will learn about presentation of the methodology of your research based on fabrication of research methods, figures and tables using Power point.	Lecture seminar	Kuroishi	Create a Power point on each research, individually
20-22	Data collection analysis presentation The analysis of data collected for research presentation.	Lecture seminar	Kuroishi	Create a Power point on each research, individually
23-25	Meeting presentations and media creation You have to present your research in the form of oral or poster proceedings at academic exhibits (No. 1).	Lecture seminar	Shiga	Create a Power point on each research, individually
26-28	Meeting presentations and media creation You have to present your research in the form of oral or poster proceedings at academic exhibits (No. 2).	Lecture seminar	Shiga	Create a Power point on each research, individually
29-30	Write an article and submit You will learn about the proper method of writing an article to understand the guidelines of the journal.	Lecture seminar	Kawamoto	Review journals submission guideline

2019

Orofacial Function and Orthodontics (Orofacial Function and Orthodontics)

Grades	2 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K.						
	Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi 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

Pub. _____ Aut. _____

Reference Books

Contemporary Orthodontics, 6th Edition
Pub. Mosby Aut. William R. Proffit

Orthodontics Current Principles & Techniques
Pub. ELSEVER/MOSBY Aut. T.M.Grabner

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Evaluation of a research protocol	100%

Etc

2019

Orofacial Function and Orthodontics (Orofacial Function and Orthodontics)

Grades	2 grade	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kawamoto T.						
Instructor(s)	Kawamoto T., Shiga M., Gunjikake K., Kuroishi K. Accredited Specialist of Orofacial Function and Orthodontics : Kawamoto, Shiga, Gunjikake, Kuroishi Supervisor of Orofacial Function and Orthodontics : Kawamoto,						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-3	Orofacial function You will learn about the Orofacial function based on growth and development	Lecture	Kawamoto	Review handouts
4-5	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	Shiga	One-year review of the next lecture
6-8	Tooth movement and bone modeling You will learn about the orthodontic tooth movement periodontal ligament fibroblast cells, osteoblasts, osteoclasts during bone remodeling.	Exercises and small group seminars	Kuroishi	A perusal of related papers
9-11	Evaluation of masticatory function You will learn about the necessity of the Orthodontic treatment to understand the basics of the masticatory function	Exercises and small group seminars	Kuroishi	A perusal of related papers
12-13	Regulation of bone metabolism through the trigeminal ganglion You will learn about the relationship of the nervous system and bone metabolism	Exercises and small group seminars	Gunjigake	A perusal of related papers
14-15	Mechanism of reaction of bone metabolism in periodontal tissue You 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

2019

Oral and Maxillofacial Radiology (Oral and Maxillofacial Radiology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory subject	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S.						
	Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*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

Pub. Aut.

Reference Books

Head and Neck Imaging 3rd edition 1996

Pub. Aut.

Contemporary Oral and Maxillofacial Pathology

Pub. Aut.

Basic radiology

Pub. Aut.

Oral Anatomy

Pub. Aut.

CT, MRI in head and neck, Handbook of diagnostic imaging in head and neck

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentations	50%
Oral examinations	50%

Etc

2019

Oral and Maxillofacial Radiology (Oral and Maxillofacial Radiology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory subject	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Contents

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

2019

Oral and Maxillofacial Radiology (Oral and Maxillofacial Radiology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory subject	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	Preparation-Review
25, 26	Diagnosis of 20 submandibular space-related lesions in 600 cased teaching files II	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
27, 28	Diagnosis of 20 submandibular and sublingual spaces-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
29, 30	Diagnosis of 20 masticator space-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
31, 32	Diagnosis of 20 maxillary sinus-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
33, 34	Diagnosis of 20 TMJ-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
35, 36	Diagnosis of 20 maxilla and mandible-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
37, 38	Diagnosis of 20 retropharyngeal space-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
39, 40	Diagnosis of 20 parapharyngeal and retropharyngeal spaces-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
41, 42	Diagnosis of 20 pharynx and masticator space-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
43, 44	Diagnosis of 20 pharynx-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
45, 46	Diagnosis of 20 lymph nodes-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
47, 48	Diagnosis of 20 cystic masses in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
49, 50	Diagnosis of 20 salivary glands-related lesions in 600 cased teaching files	Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda

2019

Oral and Maxillofacial Radiology (Oral and Maxillofacial Radiology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory subject	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

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

2019

Conference of Oral and Maxillofacial Radiology (Conference of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*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 lesions 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

Head and Neck Imaging 3rd edition
Pub.

Aut.

Reference Books

Head and Neck Imaging 3rd edition
Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentations	50%
Oral examinations	50%

Etc

2019

Conference of Oral and Maxillofacial Radiology (Conference of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S.						
	Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** *** *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
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, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook

2019

Outline of Oral and Maxillofacial Radiology (Outline of Oral and Maxillofacial Radiology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S.						
	Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, *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 tutorial 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

Pub. Aut.

Reference Books

Head and Neck Imaging 3rd edition
 Pub. Aut.

Contemporary Oral and Maxillofacial Pathology
 Pub. Aut.

Basic radiology
 Pub. Aut.

Oral Anatomy
 Pub. Aut.

MRI in head and neck, Handbook of diagnostic imaging in head and neck
 Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentations	50%
Oral examinations	50%

Etc

2019

Outline of Oral and Maxillofacial Radiology (Outline of Oral and Maxillofacial Radiology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Contents

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

2019

Outline of Oral and Maxillofacial Radiology (Outline of Oral and Maxillofacial Radiology)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	60 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	Preparation-Review
17	Diagnosis for many kinds of diseases in oral and maxillofacial regions II (Mainly TMJ-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
18	Diagnosis for many kinds of diseases in oral and maxillofacial regions III (Mainly Maxilla and mandible-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
19	Diagnosis for many kinds of diseases in oral and maxillofacial regions IV (Mainly Parapharyngeal, Masticator, and Carotid space-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
20	Diagnosis for many kinds of diseases in oral and maxillofacial regions V (Mainly Retropharyngeal, Perivertebral, Sublingual, and Submandibular space-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
21	Diagnosis for many kinds of diseases in oral and maxillofacial regions VI (Mainly Oropharynx-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
22	Diagnosis for many kinds of diseases in oral and maxillofacial regions VII (Mainly Epipharynx, Hypopharynx, Larynx-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
23	Diagnosis for many kinds of diseases in oral and maxillofacial regions VII (Mainly Lymph nodes-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
24	Diagnosis for many kinds of diseases in oral and maxillofacial regions VIII (Mainly Cystic masses)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
25	Diagnosis for many kinds of diseases in oral and maxillofacial regions IX (Mainly Salivary glands-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
26	Diagnosis for many kinds of diseases in oral and maxillofacial regions IX (Mainly Thyroid and Parathyroid glands-related diseases)	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
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	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
28	Review of diagnosis for many kinds of diseases in oral and maxillofacial regions from 16 to 27	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
29	Interventional Radiology for many kinds of diseases in maxillofacial regions	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda
30	Radiotherapy for oral cancers	Lecture and Practice	Pre- and post-reading of textbook	Morimoto, Tanaka, Wakasugi-Sato, Oda

2019

Practice of Oral and Maxillofacial Radiology (Practice of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	Spring	Subject	Compulsory subject (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*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

Pub. Aut.

Reference Books

Basic Radiology
Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentation	50%
Oral examination	50%

Etc

2019

Practice of Oral and Maxillofacial Radiology (Practice of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	Spring	Subject	Compulsory subject (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	The examinations of radiation protection supervisor I and II	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
2	History of Radiology, Physics of radiation I	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
3	Physics of radiation II	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
4	Radioisotope	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
5	Basic radiation measurement methods	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
6	Radiation control	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
7	Radiation protection	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
8	Radiation-related laws and ordinances I	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
9	Radiation-related laws and ordinances II	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
10	Radiobiology	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
11	Radiation chemistry I	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
12	Radiation chemistry II	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
13	Review I (Compound questions)	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
14	Review II (Compound questions)	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook

2019

Practice of Oral and Maxillofacial Radiology (Practice of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	Spring	Subject	Compulsory subject (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	Preparation·Review
15	Review III (Compound questions)	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook

2019

Practice of Oral and Maxillofacial Radiology (Practice of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	Spring	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentation	50%
Oral examination	50%

Etc

2019

Practice of Oral and Maxillofacial Radiology (Practice of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	Spring	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, *Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Contents

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

2019

Practice of Oral and Maxillofacial Radiology (Practice of Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	Spring	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Lecture or Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Lecture	Contents	Methods	Instructor	Preparation-Review
15	Review from 1 to 14	Lecture and Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook

2019

A reading circle on Oral and Maxillofacial Radiology (A reading circle on Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S.						
	Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***, *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

Head and Neck Imaging 3rd edition, Som, Curtin et al Mosby 1996
Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentation	50%
Oral examiantion	50%

Etc

2019

A reading circle on Oral and Maxillofacial Radiology (A reading circle on Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory subject or elective (Clinical)	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-15	A reading circle of " Head and Neck Imaging "	Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook " Head and Neck Imaging 3rd edition "

2019

Basic treatment strategy of Oral and Maxillofacial Surgery (Basic treatment strategy of Oral and Maxillofacial Surgery)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

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 surgery
- 2.To acquire the basic knowledge of major oral and maxillofacial surgery
- 3.To acquire the basic skills of pre- and post- operative management for oral surgery
4. To acquire the basic skills of systemic management for hospitalized patients
- 5.To acquire the basic skills of management for medical emergency

Textbooks

Contemporary Oral and Maxillofacial Surgery

Pub. Aut. Mosby

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

2019

Basic treatment strategy of Oral and Maxillofacial Surgery (Basic treatment strategy of Oral and Maxillofacial Surgery)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Uncomplicated exodontia	Practice	Kaneko	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	Kaneko	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	Hayakawa	Preparation and review of text books
17,18	Prevention of surgical site infection	Practice	Kaneko	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	Mitsugi	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	Hayakawa	Preparation and review of text books

2019

Basic treatment strategy of Oral and Maxillofacial Surgery (Basic treatment strategy of Oral and Maxillofacial Surgery)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Lecture	Contents	Methods	Instructor	Preparation-Review
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
35,36	Surgical reconstruction of oro-facial region	Practice	Tabé	Preparation and review of text books
37,38	Postsurgical management of oral cancer patients	Practice	Tabé	Preparation and review of text books
39,40	Principles of terminal care for oral cancer patients	Practice	Haraguchi	Preparation and review of text books
41,42	Oral examination 4	Case presentation and oral examination	Kaneko	Preparation of case presentation
43,44	Surgical management of temporomandibular disorders	Practice	Tabé	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	Hayakawa	Preparation and review of text books
55,56	General anesthesia for oral surgery	Practice	Kaneko	Preparation and review of text books
57,58	Management of medical emergenc	Practice	Kaneko	Preparation and review of text books
59-60	Oral examination 6	Case presentation and oral examination	Tominaga	Preparation of case presentation

2019

Basic diagnostic strategy of Oral and Maxillofacial Surgery (Basic diagnostic strategy of Oral and Maxillofacial Surgery)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	t Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

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 surgery
- 2.To acquire the basic knowledge of major oral and maxillofacial surgery
- 3.To acquire the basic skills of pre- and post- operative management for oral surgery
4. To acquire the basic skills of systemic management for hospitalized patients
- 5.To acquire the basic skills of management for medical emergency

Textbooks

Contemporary Oral and Maxillofacial Surgery
 Pub. Mosby Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
case presentations and oral/paper examinations	100%

Etc

2019

Basic diagnostic strategy of Oral and Maxillofacial Surgery (Basic diagnostic strategy of Oral and Maxillofacial Surgery)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	t Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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	Kaneko	Preparation and review of text books
15,16	Analysis of the collected data and diagnosis	Practice	Tabé	Preparation and review of text books
17,18	Oral examination 1	Case presentation and oral examination	Kaneko	Preparation of case presentation
19,20	Pathological characteristics of mucous membrane diseases	Practice	Hayakawa	Preparation and review of text books
21,22	Clinical characteristics of mucous membrane diseases	Practice	Hayakawa	Preparation and review of text books
23,24	Basic strategy for diagnosis of mucous membrane diseases	Practice	Hayakawa	Preparation and review of text books
25,26	Diagnosis of odontogenic infection	Practice	Tabé	Preparation and review of text books
27,28	Management of odontogenic infection	Practice	Tabé	Preparation and review of text books
29,30	Diagnosis of temporomandibular disorders	Practice	Habu	Preparation and review of text books

2019

Basic diagnostic strategy of Oral and Maxillofacial Surgery (Basic diagnostic strategy of Oral and Maxillofacial Surgery)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	t Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Lecture	Contents	Methods	Instructor	Preparation-Review
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
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	Kaneko	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 liver and kidney diseases	Practice	Kaneko	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	Haraguchi	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	Kaneko	Preparation and review of text books
55,56	Medical record writing based on problem oriented system	Practice	Kaneko	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

2019

Oral and Maxillofacial Surgery 1(Pathology and disease mechanisms) (Oral and Maxillofacial Surgery 1(Pathology and disease mechanisms))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

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 specimens
- 2.To acquire the basic skills of immunohistopathological staining
- 3.To acquire the knowledge of osteonecrosis model induced by bisphosphonate
- 4.To acquire the knowledge of arthritis model of temporomandibular joint
- 5.To acquire the knowledge of transplanted cancer model

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
practice outcome and oral examination	100%

Etc

2019

Oral and Maxillofacial Surgery 1(Pathology and disease mechanisms) (Oral and Maxillofacial Surgery 1(Pathology and disease mechanisms))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Processing of histopathological specimens 1: from tissue fixation to embedding	Lecture and practice	Takahashi	Preparation and review of text book
2	Processing of histopathological specimens 2: decalcification and slicing	Lecture and practice	Takahashi, Kaneko	Preparation and review of text book
3	Processing of histopathological specimens 3: H-E staining	Lecture and practice	Kaneko	Preparation and review of text book
4	Immunohistopathological staining 1:undecalcified specimens	Lecture and practice	Hayakawa	Preparation and review of text book
5	Immunohistopathological staining 2: decalcified specimens	Lecture and practice	Hayakawa, Tabe	Preparation and review of text book
6	Arthritis model of the temporomandibular joint: the impact and the mechanisms	Lecture and practice	Tabé	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, Sasaguri	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	Tabé	Preparation and review of text book
11	Immunohistopathological findings of the BRONJ model	lecture	Takahashi, haraguchi	Preparation and review of text book
12	Development of treatment methods using BRONJ models	lecture	Haraguchi	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	Mitsugi, Tominaga	Preparation and review of text book
15	Oral examination	Oral examination	Tominaga	Preparation of research presentation

2019

Oral and Maxillofacial Surgery 2 (Drug and gene induction) (Oral and Maxillofacial Surgery 2 (Drug and gene induction))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Course Description

【Language】 English and Japanese

To acquire the skills of electroporation and sonoporation

Attainment Objectives

- 1.To acquire the basic skills of cell culture
- 2.To acquire the basic skills of microorganisms culture
- 3.To acquire the basic skills of DNA management
4. To acquire the basic skills of electroporation and sonoporation
- 5.To acquire the basic analyzing methods

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
practice outcome and oral examination	100%

Etc

2019

Oral and Maxillofacial Surgery 2 (Drug and gene induction) (Oral and Maxillofacial Surgery 2 (Drug and gene induction))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	cell culture 1: aseptic processing	Lecture and practice	Takahashi	Preparation and review of text book
3,4	Cell culture 2: subcultivation	Lecture and practice	Kaneko	Preparation and review of text book
5,6	Bacterial culture	Lecture and practice	Mitsugi	Preparation and review of text book
7,8	Extraction of DNA	Lecture and practice	Hayakawa	Preparation and review of text book
9,10	Electroporation	Lecture and practice	Habu	Preparation and review of text book
11,12	Sonoporation	Lecture and practice	Taba	Preparation and review of text book
13,14	Analyzing method 1: polymerase chain reaction	Lecture and practice	Haraguchi	Preparation and review of text book
15,16	Analyzing method 2: western blotting and ELISA	Lecture and practice	Takahashi	Preparation and review of text book
17,18	Analyzing method 3: flowcytometry	Lecture and practice	Sasaguri	Preparation and review of text book
19,20	Oral examination	Oral examination	Tominaga	Preparation of research presentation

2019

Oral and Maxillofacial Surgery 3 (Conferences) (Oral and Maxillofacial Surgery 3 (Conferences))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

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 background

To improve comprehension of the clinical and research future scope

To be critical reader

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
presentation	100%

The contents of their presentation are evaluated by the instructors.

Etc

2019

Oral and Maxillofacial Surgery 3 (Conferences) (Oral and Maxillofacial Surgery 3 (Conferences))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K., Sasaguri M., Habu M., Takahashi S., Mitsugi S., Hayakawa.M, null, null, null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Back ground and future scope of individual researches and clinical cases	Conference presentation	Tominaga Sasaguri Habu Takahashi Mitsugi Hayakawa Tabé Haraguchi Kaneko	Research of related articles

2019

Oral Medicine (Basic Course) (Oral Medicine (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I, Kokuryo S, Hirabayashi F						
Instructor(s)	Yoshioka I., Kokuryo S., null						
	Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

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

Oral Surgery (Japanese)

Pub. Ishiyaku Publishers, Inc

Aut. Kanemitsu Shirasuna, Kogo
Mikihiko edt

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
report after each lecture (1*4points) 1st-15th	60%
portfolios (1*4points) 1st-10th	40%

Etc

Choose an article or suggestive paper that you would like to introduce and discuss with the members.

2019

Oral Medicine (Basic Course) (Oral Medicine (Basic Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (clinical)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I, Kokuryo S, Hirabayashi F						
Instructor(s)	Yoshioka I., Kokuryo S., null Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	General statements of Oral Medicine, diagnoses of Oral Medicine You 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 Mouth You 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	Kokuryo	Pre reading of literature and textbook
7	General principles of antibiotic therapy. You will study the classification, characteristics and usage of antibiotic therapy.	Lecture	Kokuryo	Pre reading of literature and textbook
8	Practical managements of arthrocentesis of TMJ. You will study about arthrocentesis of TMJ	Lecture	Kokuryo	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	Kokuryo	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	Kokuryo	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	Hirabayashi	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	Hirabayashi	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	Hirabayashi	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	Hirabayashi	Pre reading of literature and textbook
15	Medical cooperation/ Summary You will study about clinic, hospital collaboration, medical collaboration, medical-dental collaboration multidisciplinary collaboration and consultation for the purpose of team medicine.	Lecture	Hirabayashi	Post reading of literature and textbook

2019

Oral Medicine (Advanced Course) (Oral Medicine (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I,						
Instructor(s)	Yoshioka I., Kokuryou S., null, Tsurushima H., Tanaka J., null Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

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

Oral Surgery (Japanese)

Pub. Ishiyaku Publishers, Inc

Aut. Kanemitsu Shirasuna, Kogo Mikihiko edt

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
report after each lecture (1*4points) 1st-15th	60%
portfolios (1*4points) 1st-10th	40%

Etc

Choose an article or suggestive paper that you would like to introduce and discuss with the members.

2019

Oral Medicine (Advanced Course) (Oral Medicine (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I,						
Instructor(s)	Yoshioka I., Kokuryo S., null, Tsurushima H., Tanaka J., null Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

Contents

Lecture	Contents	Methods	Instructor	Preparation- Review
1,2	Oral mucosal diseases1 You will learn clinical diagnostic reasoning.(1)	Practice	Tanaka	Pre reading of literature and textbook
3,4	Oral mucosal diseases2 You will learn clinical diagnostic reasoning.(2)	Practice	Tanaka	Pre reading of literature and textbook
5,6	Oral mucosal diseases3 You will learn clinical diagnostic reasoning.(3)	Practice	Tanaka	Pre reading of literature and textbook
7,8	Oral mucosal diseases4 You will learn treatment for oral mucosal disease.	Practice	Tanaka	Pre reading of literature and textbook
9,10	Temporomandibular disorder1 You will learn clinical diagnostic reasoning. (1)	Practice	Tanaka	Pre reading of literature and textbook
11,12	Temporomandibular disorder2 You will learn clinical diagnostic reasoning.(2)	Practice	Hirabayashi	Pre reading of literature and textbook
13,14	Temporomandibular disorder3 You will learn clinical diagnostic reasoning.(3)	Practice	Hirabayashi	Pre reading of literature and textbook
15,16	Temporomandibular disorder4 You will learn treatment for TMD.(physical therapy)	Practice	Hirabayashi	Pre reading of literature and textbook
17,18	Temporomandibular disorder5 You will learn treatment for TMD.(splint therapy)	Practice	Hirabayashi	Pre reading of literature and textbook
19,20	Temporomandibular disorder6 You will learn treatment for TMD.(manipulation)	Practice	Hirabayashi	Pre reading of literature and textbook
21,22	Temporomandibular disorder7 You will learn treatment for TMD.(arthrocentesis)	Practice	Kokuryo	Pre reading of literature and textbook
23,24	Temporomandibular disorder8 You will learn treatment for TMD.(surgical operation)	Practice	Kokuryo	Pre reading of literature and textbook
25,26	Dislocation of the temporomandibular joint1 You will learn conservative treatment.	Practice	Kokuryo	Pre reading of literature and textbook
27,28	Dislocation of the temporomandibular joint2 You will learn surgical operation.	Practice	Kokuryo	Pre reading of literature and textbook
29,30	Tumor of the temporomandibular joint You will learn surgical operation.	Practice	Kokuryo	Pre reading of literature and textbook
31,32	Dry mouse1 You will learn clinical diagnostic reasoning.	Practice	Tsurushima a	Pre reading of literature and textbook

2019

Oral Medicine (Advanced Course) (Oral Medicine (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I,						
Instructor(s)	Yoshioka I., Kokuryou S., null, Tsurushima H., Tanaka J., null Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

Lecture	Contents	Methods	Instructor	Preparation-Review
33,34	Dry mouse2 You will learn clinical diagnostic reasoning.	Practice	Tsurushim a	Pre reading of literature and textbook
35,36	Dry mouse3 You will learn clinical diagnostic reasoning.	Practice	Tsurushim a	Pre reading of literature and textbook
37,38	Dry mouse4 You will learn treatment for dry mouth.	Practice	Tsurushim a	Pre reading of literature and textbook
39,40	Oral psychosomatic disease 1 You will learn clinical diagnostic reasoning.	Practice	Tsurushim a	Pre reading of literature and textbook
41,42	Oral psychosomatic disease 2 You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook
43,44	Oral psychosomatic disease 3 You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook
45,46	Oral psychosomatic disease 4 You will learn treatment for oral psychosomatic disease.	Practice	Otani	Pre reading of literature and textbook
47,48	Orofacial pain1 You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook
49,50	Orofacial pain2 You will learn clinical diagnostic reasoning.	Practice	Otani	Pre reading of literature and textbook
51,52	Orofacial pain3 You will learn clinical diagnostic reasoning.	Practice	Yoshioka	Pre reading of literature and textbook
53,54	Orofacial pain4 You will learn treatment for orofacial pain.	Practice	Yoshioka	Pre reading of literature and textbook
55,56	Chemotherapy You will learn chemotherapy for oral cancer.	Practice	Yoshioka	Pre reading of literature and textbook
57,58	Radiation therapy You will learn radiation therapy for oral cancer.	Practice	Yoshioka	Pre reading of literature and textbook
59,60	Chemoradiation therapy You will learn chemoradiation therapy for oral cancer	Practice	Yoshioka	Pre reading of literature and textbook

2019

Oral Medicine (Advanced Course) (Oral Medicine (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., null, Tsurushima H. Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

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

Pub.

Aut.

Reference Books

Oral and maxillofacial surgery

Pub. Ishiyaku Published

Aut. Shirasuna K., kogou M.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
case presentation	60%
report	40%

Etc

2019

Oral Medicine (Advanced Course) (Oral Medicine (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., null, Tsurushima H. Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1,2	Hypertension You will learn oral treatment for patients with hypertension.	Practice	Yoshioka	Pre reading of literature and textbook
3,4	Heart disease You will learn oral treatment for patients with heart disease.	Practice	Yoshioka	Pre reading of literature and textbook
5,6	Respiratory disease You will learn oral treatment for patients with respiratory disease.	Practice	Yoshioka	Pre reading of literature and textbook
7,8	Diabetes mellitus You will learn oral treatment for patients with diabetes mellitus.	Practice	Yoshioka	Pre reading of literature and textbook
9,10	Gynecological disease - pregnant women You will learn oral treatment for patients with gynecological disease and pregnant women.	Practice	Yoshioka	Pre reading of literature and textbook
11,12	Hemodyscrasia You will learn oral treatment for patients with hemodyscrasia.	Practice	Tsurushim a	Pre reading of literature and textbook
13,14	Autoimmune disease You will learn oral treatment for patients with autoimmune disease.	Practice	Tsurushim a	Pre reading of literature and textbook
15,16	Hepatic disease You will learn oral treatment for patients with hepatic disease.	Practice	Tsurushim a	Pre reading of literature and textbook
17,18	Renal disease You will learn oral treatment for patients with renal disease.	Practice	Tsurushim a	Pre reading of literature and textbook
19,20	Orthopedic disorder You will learn oral treatment for patients with orthopedic disorder.	Practice	Tsurushim a	Pre reading of literature and textbook
21,22	Neurological disease You will learn oral treatment for patients with neurological disease.	Practice	Otani	Pre reading of literature and textbook
23,24	Neurosurgical disease You will learn oral treatment for patients with neurosurgical disease.	Practice	Otani	Pre reading of literature and textbook
25,26	Otorhinolaryngological disease You will learn oral treatment for patients with otorhinolaryngological disease.	Practice	Otani	Pre reading of literature and textbook
27,28	Infection You will learn oral treatment for patients with infection.	Practice	Otani	Pre reading of literature and textbook
29,30	Dermatological disease You will learn oral treatment for patients with dermatological disease.	Practice	Otani	Pre reading of literature and textbook

2019

Oral Medicine (Advanced Course) (Oral Medicine (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohtani T.						
Instructor(s)	null, Tanaka J., null						
	Certifying physician of Oral and Maxillofacial Surgery : Ohtani T., Tanaka J., Hirabayashi 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

Pub.

Aut.

Reference Books

Oral Surgery (Japanese)

Pub. Ishiyaku Publishers, Inc

Aut. Kanemitsu Shirasuna, Kogo Mikihiko edt

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Presentation	60%
Report	40%

Etc

2019

Oral Medicine (Advanced Course) (Oral Medicine (Advanced Course))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Practice	Total time	60	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ohtani T.						
Instructor(s)	null, Tanaka J., null Certifying physician of Oral and Maxillofacial Surgery : Ohtani T., Tanaka J., Hirabayashi F.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Hospital and hospital cooperation You will learn the hospital and hospital cooperation.	Practice	Ohtani	Pre reading of literature and textbook
3,4	Hospital and clinic cooperation You will learn the hospital and clinic cooperation.	Practice	Ohtani	Pre reading of literature and textbook
5,6	Medical Consultation You will learn about the consultation.	Practice	Ohtani	Pre reading of literature and textbook
7,8	Medical and dental cooperation You will learn the medical and dental cooperation.	Practice	Ohtani	Pre reading of literature and textbook
9,10	Multidisciplinary collaboration You will learn the collaboration with doctors.	Practice	Ohtani	Pre reading of literature and textbook
11,12	Multidisciplinary collaboration You will learn the collaboration with nurses.	Practice	Tanaka	Pre reading of literature and textbook
13,14	Multidisciplinary collaboration You will learn the collaboration with registered dietitians.	Practice	Tanaka	Pre reading of literature and textbook
15,16	Multidisciplinary collaboration You will learn about the collaboration with dental hygienists.	Practice	Tanaka	Pre reading of literature and textbook
17,18	Multidisciplinary collaboration You will learn about the collaboration with medical social workers.	Practice	Tanaka	Pre reading of literature and textbook
19,20	Multidisciplinary collaboration You will learn the collaboration with personal care workers.	Practice	Tanaka	Pre reading of literature and textbook
21,22	Multidisciplinary collaboration You will learn the collaboration with medical assistants.	Practice	Hirabayashi	Pre reading of literature and textbook
23,24	Perioperative oral management of cancer patients 1 You will learn the oral management of the patient with cancer undergoing chemotherapy.	Practice	Hirabayashi	Pre reading of literature and textbook
25,26	Perioperative oral management of cancer patients 2 You will learn the oral management of patient with cancer undergoing radiation therapy.	Practice	Hirabayashi	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	Hirabayashi	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	Hirabayashi	Pre reading of literature and textbook

2019

Oral Medicine (Jaw Deformity) (Oral Medicine (Jaw Deformity))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Kokuryou S., Tsurushima H. Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Certifying physician of Oral and Maxillofacial Surgery : Sakaguchi, Tsurushima,						

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

Oral and Maxillofacial Surgery
Pub. Ishiyaku Publishers, Inc. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
reports after the lectures (4x15)	60%
assignments (4x10)	40%

Etc

2019

Oral Medicine (Jaw Deformity) (Oral Medicine (Jaw Deformity))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Kokuryou S., Tsurushima H. Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Certifying physician of Oral and Maxillofacial Surgery : Sakaguchi, Tsurushima,						

Contents

Lecture	Contents	Methods	Instructor	Preparation- Review
1	Survey of jaw deformities You will learn about the trends of jaw deformities.	Lectures and Seminars	Yoshioka	Pre reading of literature and textbook
2	Inspection of jaw de- -formities You will learn about the trends of jaw deformities.	Lectures and Seminars	Yoshioka	Pre reading of literature and textbook
3	Analysis of jaw defomities You will learn about 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	Kokuryo	Pre reading of literature and textbook
7	Orthognatic surgery You will learn about the orthognatic surgery.	Lectures and Seminars	Kokuryo	Pre reading of literature and textbook
8	Post-operative assessment of jaw deformities. You will earn about the post-operative assessment.	Lectures and Seminars	Kokuryo	Pre reading of literature and textbook
9	Evaluation of the masti- -catory function you will learn about the Evaluation of the masticatory function.	Lectures and Seminars	Kokuryo	Pre reading of literature and textbook
10	Psychological evaluation of patients with jaw defor- -mities. You will learn about the psychological evaluation of patients with jaw deform- -ities.	Lectures and Seminars	Kokuryo	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	Tsurushima	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	Tsurushima	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	Tsurushima	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	Tsurushima	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	Tsurushima	Pre reading of literature and textbook

2019

Oral Medicine (Oral Medicine)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokuryou S						
Instructor(s)	Miyamoto I., Kokuryou S., Tanaka J.						
	Kokuryou S Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

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

Oral Surgery (Japanese)

Pub. Ishiyaku Publishers

Aut. Kanemitsu Shirasuna, Kogo Mikihiko edt

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
report after each lecture (1st ~ 15th, 1x4 points)	60%
submission of exercises (1st - 10th, 1x4 points)	40%

Etc

2019

Oral Medicine (Oral Medicine)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokuryo S						
Instructor(s)	Miyamoto I., Kokuryo S., Tanaka J. Kokuryo S Certifying physician of Oral and Maxillofacial Surgery : Kokuryo						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Bone augmentation research You will learn the trend of bone augmentation research.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
2	Distraction osteogenesis of animal jaw You will learn the distraction osteogenesis of animal jaw.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
3	The animal models of sinus lift You will learn the animal models of sinus lift.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
4	The animal models of graft You will learn the animal models of bone graft.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
5	Manufacturing method of hard tissue specimen You will learn the manufacturing method of hard tissue specimen.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
6	Oral mucosal diseases research You will learn oral mucosal diseases research.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
7	The sampling method of oral mucosal diseases You will learn the sampling method of oral mucosal diseases.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
8	The immunologic mechanism of oral mucosal diseases You will learn immunologic mechanism of oral mucosal diseases.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
9	The xerostomia model animal You will learn preparing animal models of xerostomia.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
10	The metal allergy model animal You will learn preparing animal models of metal allergy.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
11	Temporomandibular joint disorders research You will learn the trend of temporomandibular joint disorders research.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
12	Temporomandibular arthritis model animal You will learn preparing the animal models of temporomandibular arthritis.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
13	The sampling method of temporomandibular joint synovial fluids You will learn the sampling method of temporomandibular joint synovial fluids.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
14	The analysis method of temporomandibular joint synovial fluids You will learn the analysis method of temporomandibular joint synovial fluids.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook
15	The measurement procedure of temporomandibular joint pain threshold You will learn the measurement procedure of temporomandibular joint pain threshold.	Lecture, Practice	Kokuryo	Pre reading of literature and textbook

2019

Oral Medicine (Oral Medicine)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Kokuryou S., Kouno M., null, Tsurushima H., Tanaka J., null Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo, Sakaguchi, Tsurushima, Tanaka, Ohtani,						

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 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Selection of article	60%
Ability of the presentation	40%

Etc

You have to choose the article, to prepare the materials necessary for your presentation.

2019

Oral Medicine (Oral Medicine)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshioka I						
Instructor(s)	Yoshioka I., Kokuryou S., Kouno M., null, Tsurushima H., Tanaka J., null Advisor and Specialist of Oral and Maxillofacial Surgery : Yoshioka, Miyamoto, Certifying physician of Oral and Maxillofacial Surgery : Kokuryo, Sakaguchi, Tsurushima, Tanaka, Ohtani,						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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	Yoshioka Yoshiga Kokuryo Otani Tsurushim a Tanaka Hirabayas hi	Pre- and post-reading of journals

2019

Anesthesiology (Anesthesiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	S.Watanabe						
Instructor(s)	null, Shiiba S., Harano N., Sagou T.						
	Watanabe S., Shiiba S., Harano N., Sagou T., Shigeyama Y						

Course Description

Every Thursday evening (from 5:00 p.m.), the topic pick up from the article in the article written in English related to Anesthesiology, 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

Pub. Aut.

Reference Books

Anestghesiology
Pub. LWW Journals Aut. Evan D. Kharasch

Anesthesia & Analgesia
Pub. Wolters Kluwer Aut. Jean-Francois Pittet

British Journal of Anaesthesia
Pub. Oxford Journals Aut. Ravi P. Mahajan

Grading Criteria and Method of Evaluation

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.

2019

Anesthesiology (Anesthesiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	S.Watanabe						
Instructor(s)	null, Shiiba S., Harano N., Sagou T.						
	Watanabe S., Shiiba S., Harano N., Sagou T., Shigeyama Y						

Contents

Lecture	Contents	Methods	Instructor	Preparation- Review
1-13	Understanding the background and the newest knowledge in the worldwide articles (Anesthesiology, Anesthesia & Analgesia, 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	Lecture Practice	S. Watanabe	Review of lecture

2019

Anesthesiology (Cardiac physiology & Cardiac Medicine) (Anesthesiology (Cardiac physiology & Cardiac Medicine))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Course Description

Every Monday evening (from 3:00 p.m.), the topic pick up the article in the textbook related to the basic cardiac physiology, 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 basic science and topics related to the cardiac physiology and cardiac medicine.
- 3 . To build up the ability to criticize the each part of the articles.

Textbooks

Cardiovascular Physiology

Pub.

Aut. Mohrman and Heller

Pathophysiology of Heart Disease

Pub.

Aut. Lilly

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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.

2019

Anesthesiology (Cardiac physiology & Cardiac Medicine) (Anesthesiology (Cardiac physiology & Cardiac Medicine))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Understanding the background and the basic knowledge in the textbook. You will present and discuss the core of the article in our journal club. 1. Cardiac Mechanics 2. Events of the Cardiac Cycle 3. Valvular Heart Disease 4. Cardiac Output 5. Coronary Circulation 6. Ischemic Heart Disease 7. Microcirculation and Lymph 8. Heart Failure 9. The Cardiomyopathies 10. The Pericardium	Student's presentation & Group discussion	Watanabe	Reading and understanding for the topics of task area.

2019

Anesthesiology (Cardiac physiology & Cardiac Medicine) (Anesthesiology (Cardiac physiology & Cardiac Medicine))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Course Description

Every Tuesday evening (from 3:00 p.m.), the topic pick up the article in the textbook related to the basic cardiac physiology, 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 basic science and topics related to the cardiac physiology and cardiac medicine.
- 3 . To build up the ability to criticize the each part of the articles.

Textbooks

Human Biology 540 Introduction to Cardiovascular Medicine

Pub. Aut.

Cardiovascular Physiology

Pub. Aut. Mohrman and Heller

Pathophysiology of Heart Disease

Pub. Aut. Lilly

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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.

2019

Anesthesiology (Cardiac physiology & Cardiac Medicine) (Anesthesiology (Cardiac physiology & Cardiac Medicine))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Lecture 1 ~ 10, minor and final exam 11 ~ 15 Understanding the background and the basic knowledge in the textbook. You will present and discuss the core of the article in our journal club. 1. Cardiac Imaging 2. Fetal Development and Circulation 3. Congenital Heart Disease 4. Peripheral Vascular Disease 5. Circulatory Shock 6. Arrhythmia Management for the GP 7. Exercise and Aging 8. Cardiothoracic / Cardiovascular Surgery 9. ECG1 10. ECG2	Student's presentation & Group discussion	Watanabe S	Reading and understanding for the topics of task area.

2019

Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology) (Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Course Description

Every Tuesday evening (from 4:00 p.m.), the topic pick up the article in the textbook related to the pulmonary pathophysiology, 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 basic science and topics related to the respiratory physiology and pulmonary pathophysiology.
- 3 . To build up the ability to criticize the each part of the articles.

Textbooks

Pulmonary Pathophysiology: The Essentials, 8th Edition
 Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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.

2019

Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology) (Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Lecture 1 ~ 15 Understanding the background and the basic knowledge in the textbook. You will present and discuss the core of the article in our journal club. 1. Lung function tests and what they mean 2. Function of the diseased lung 3. Function of the failing lung	Student's presentation & Group discussion	Watanabe S	Reading and understanding for the topics of task area.

2019

Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology) (Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Course Description

Every Tuesday evening (from 4:00 p.m.), the topic pick up the article in the textbook related to the pulmonary pathophysiology, 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 basic science and topics related to the respiratory physiology and pulmonary pathophysiology.
- 3 . To build up the ability to criticize the each part of the articles.

Textbooks

Pulmonary Pathophysiology: The Essentials, 8th Edition
 Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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.

2019

Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology) (Anesthesiology (Respiratory physiology and Pulmonary Pathophysiology))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	Lecture 1 ~ 15 Understanding the background and the basic knowledge in the textbook. You will present and discuss the core of the article in our journal club. 1. Lung function tests and what they mean 2. Function of the diseased lung 3. Function of the failing lung	Student's presentation & Group discussion	Watanabe S	Reading and understanding for the topics of task area.

2019

Anesthesiology(Basic course) (Anesthesiology(Basic course))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Course Description

Lecture will be provided to understanding the basic respiratory and cardia monitoring and the practice related to the content of lecture will be carried out at the end of course.

Attainment Objectives

Understanding the background and the basic knowledge in the textbook and getting the basic skill of the physiologic monitoring, respiratory and cardiac care.

Textbooks

Visual Manual of Clinical Basic Techniques(Injection and collecting of blood, Tracheal intubation)

Pub. Yodosha

Aut.

Perioperative monitoring

Pub. Yodosha

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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.

2019

Anesthesiology(Basic course) (Anesthesiology(Basic course))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Clinical)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-7	Lecture and practice 1. Respiratory monitoring 2. Cardiac monitoring 3. Other physiologic monitoring 4. Mask ventilation 5. Tracheal intubation 6. IV line 7. Clinical evaluation for respiratory and cardiac function	Student's presentation & Group discussion	Watanabe S	Reading and understanding for the topics of task area.

2019

Anesthesiology(Advanced course) (Anesthesiology(Advanced course))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Course Description

Lecture will be provided to understanding the advanced respiratory and cardia monitoring and the practice related to the content of lecture will be carried out at the end of course.

Attainment Objectives

Understanding the background and the basic knowledge in the textbook and getting the basic skill of the physiologic monitoring, respiratory and cardiac care.

Textbooks

Visual Manual of Clinical Basic Techniques
 Pub. Yodosha Aut.

Perioperative monitoring
 Pub. Yodosha Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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.

2019

Anesthesiology(Advanced course) (Anesthesiology(Advanced course))

Grades	1-4grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Watanabe S.						
Instructor(s)	null						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
1 ~ 7	Lecture and practice 1. Advanced Respiratory and cardiac monitoring 2. Central venous line, PICC 3. Pulmonary arterial catheter 4. Artificial ventilation 5. Motor Evoked Potential · Sensory Evoked Potential 6. rSO ₂ , brain metabolism 7. Clinical evaluation for advanced respiratory and cardiac function	Student's presentation & Group discussion	Watanabe S	Reading and understanding for the topics of task area.

2019

Oral Care and Rehabilitation (Basic) (Oral Care and Rehabilitation (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuaki Kakinoki						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

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 type
- 2.Practicing rehabilitation for dysphagia
- 3.Choice of modified diet for dysphagic persons
- 4.Correspondence for functional prosthesis dental treatment for dysphagia

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
report including mini tests	10%
examinations and unit certification test	90%

Etc

Certifying Physician:Kakinoki,Tada,Kubota

Accredited Specialist:Kakinoki,Tada

Supervisor of Gerodontology:Kakinoki

Certified Dentists:Kakinoki,Tada,Kubota

Supervisor of Disability Oral Health:Kakinoki

Certified Dentists of Dysphagia Rehabilitation:Kakinoki

Certified Dentists of Complementary and Alternative Medicine:Kakinoki,Tada

2019

Oral Care and Rehabilitation (Basic) (Oral Care and Rehabilitation (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuaki Kakinoki						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Normal development mechanism of eating and swallowing (developmental disability, elderly)	Lecture	Kakinoki	(Review) Report
3,4	Oral care for dysphagic persons	Practice	Kakinoki	(Review) Report
5,6	Functional assessment of eating and swallowing; Inquiry , Interviews of medical history	Lecture	Kakinoki	(Review) Report
7,8	Functional assessment of eating and swallowing; Screening	Practice	Karaki	(Preparation) RSST, MWST, coughing test, FT
9,10	Examination1	Examination	Kakinoki	Feedback
11,12	Breathing and Coughing exercise	Practice	Karaki	(Preparation) Breathing and Coughing exercise
13,14	Open and close mouth exercises; Exercise for trismus Exercise for closed failure	Practice	Karaki	(Preparation) Open and close mouth exercises
15,16	Exercise for perioral muscle and tongue muscle 1 ; Lip closure exercise, the method of vangede	Practice	Kubota	(Preparation) Lip closure exercise
17,18	Exercise for perioral muscle and tongue muscle 2 ; Buccal exercise, the method of vangede, tongue exercise	Practice	Kubota	(Preparation) Buccal exercise
19,20	Exercise for perioral muscle and tongue muscle 3 ; Soft palate elevation exercise	Practice	Kubota	(Preparation) 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	(Preparation) Tongue exercise, elevation exercise of tongue dorsum and apex of tongue
23,24	Chewing and infeed exercise	Practice	Kubota	(Preparation) Chewing and infeed exercise
25,26	Exercises of swallowing; Thermal tactile stimulation	Practice	Kubota	(Preparation) Thermal tactile stimulation

2019

Oral Care and Rehabilitation (Basic) (Oral Care and Rehabilitation (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuaki Kakinoki						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

Lecture	Contents	Methods	Instructor	Preparation·Review
27,28	Exercises of swallowing; Tongue recession exercise, Tongue holding maneuver	Practice	Kakinoki	(Preparation) Tongue recession exercise, Tongue holding maneuver
29,30	Exercises of swallowing; Shaker exercises	Practice	Kakinoki	(Preparation) Shaker exercises
31,32	Neck relaxation; Neck range of motion expanding exercise, stretch of larynx muscles	Practice	Kakinoki	(Preparation) Neck range of motion expanding exercise
33,34	Acquisition of the swallowing procedure; Mendelson maneuver Use of Biofeedback	Practice	Kakinoki	(Preparation) Mendelson maneuver
35,36	Compensatory swallowing neck rotation swallowing, multiple swallowing, alternate swallowing	Practice	Kakinoki	(Preparation) neck rotation swallowing, multiple swallowing, alternate swallowing
37,38	Examination2	Examination	Kakinoki	Feedback
39,40	Operation of naso pharyngo laryngoscope	Practice	Kakinoki	(Review) Report
41,42	Exploration of dysphagia by naso pharyngo laryngoscope	Practice	Kakinoki	(Review) Report
43,44	Procedure of videofluoroscopic examination of swallowing	Lecture	Kakinoki	(Review) Report
45,46	Modification of imitation foods for videofluoroscopic examination of swallowing	Practice	Kakinoki	(Review) Report
47,48	Manufacture of palatal augmentation prosthesis (PAP)1; Impression , manufacture of wire clasp	Practice	Tada	(Preparation) wire clasp
49,50	Manufacture of PAP2; Adjustment of tongue contact surface form	Practice	Tada	(Review) Report
51,52	Adjustment of PAP; Set and adjustment	Practice	Tada	(Preparation) Adjustment of PAP
53,54	Manufacture of palatal Lift prosthesis (PLP)1 ; Impression , manufacture of wire clasp	Practice	Tada	(Preparation) Impression for manufacture of PLP
55,56	Manufacture of PLP 2 ;	Practice	Tada	Report
57,58	Adjustment of PLP; Set and adjustment	Practice	Tada	(Preparation) Adjustment of PLP

2019

Oral Care and Rehabilitation (Basic) (Oral Care and Rehabilitation (Basic))

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Lecture or Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuaki Kakinoki						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

Lecture	Contents	Methods	Instructor	Preparation·Review
59,60	Review, Examination3, unit certification test	Examination	Kakinoki	Feedback

2019

Oral Care and Rehabilitation (Advanced) (Oral Care and Rehabilitation (Advanced))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y.						
	久保田潤平、唐木純一						

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 condition
- 2.Oral care and oral functional exercise in consideration of systemic disorders of elderly
- 3.Dental treatment with Chinese medicine in consideration of systemic disorders of elderly
- 4.Health guidance by basic skill of tongue diagnosis
- 5.Homebound treatment for bedridden elderly
6. To repair and adjust denture in consideration of dysphagic persons.

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
report including test	10%
examination and unit certification test	90%

Etc

Certifying Physician:Kakinoki,Tada,Kubota

Accredited Specialist:Kakinoki,Tada

Supervisor of Gerodontology:Kakinoki

Certified Dentists:Kakinoki,Tada,Kubota

Supervisor of Disability Oral Health:Kakinoki

Certified Dentists of Dysphagia Rehabilitation:Kakinoki

Certified Dentists of Complementary and Alternative Medicine:Kakinoki,Tada

2019

Oral Care and Rehabilitation (Advanced) (Oral Care and Rehabilitation (Advanced))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y. 久保田潤平、唐木純一						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	Evaluation of QOL (Quality Of Life) and ADL (Activities Of Daily Living) Evaluation of vital signs	Practice	Kakinoki	(Preparation) QOL and ADL
3,4	Mental test and depression test	Practice	Kakinoki	(Review) Report
5,6	Evaluation of perioral muscle; Muscle related occlusion, mimic, and facial muscle	Practice	Kakinoki	(Preparation) How to use Muscle hardness meter
7,8	Evaluation of muscle related oral function; Neck and shoulder	Practice	Kakinoki	(Review) Report
9,10	Taste test	Practice	Karaki	(Preparation) Taste test
11,12	Evaluation of sense of intraoral and face	Practice	Kakinoki	(Review) Report
13,14	Saliva secretion test; Evaluation of resting saliva Spitting method	Practice	Kakinoki	(Preparation) Watte method Sialemesis method
15,16	Saliva secretion test; Evaluation of Saxon test and gum test	Practice	Kakinoki	(Preparation) Saxon test Gum test (Review) Report
17,18	Saliva secretion and distribution test; Evaluation by saliva wetness tester	Practice	Kakinoki	(Preparation) Saliva wetness tester
19,20	Physical inspection of saliva: Viscometer (ultrasonic type and rotation type) Spinnability measuring instrument	Practice	Kakinoki	(Preparation) Spinnability measuring instrument (Review) Report
21,22	Halitosis measurement and evaluation by oral chroma	Practice	Karaki	(Preparation) How to use Oral chroma
23,24	Examination1: Case presentation	Examination	Kakinoki	Feedback
25,26	Improvement of oral function: Structural oral care and functional oral care	Practice	Kubota	(Preparation) Basic oral care skill
27,28	Improvement of oral function: Oral care using liquid and gel type oral moisturizer	Practice	Kubota	(Preparation) Oral moisturizers
29,30	Basic oral care skill for bedridden elderly	Practice	Kubota	(Review) Report

2019

Oral Care and Rehabilitation (Advanced) (Oral Care and Rehabilitation (Advanced))

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Compulsory (Clinical)	Credits	4
Methods	Practice	Total time	120	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y.						
	久保田潤平、唐木純一						

Lecture	Contents	Methods	Instructor	Preparation·Review
31,32	Evaluation of oral mucosal disease Recode by intraoral camera	Practice	Kubota	(Preparation) Basic skill of intraoral camera
33,34	Evaluation of oral mucosa and tongue mucosa: Western and Chinese medical evaluation and diagnosis	Practice	Kakinoki	(Preparation) Evaluation of oral mucosa
35,36	Basic skill of tongue diagnosis	Practice	Kakinoki	(Preparation) Basic skill of tongue diagnosis, Chinese medicine
37,38	Choice of Chinese medicine by tongue diagnosis(1)	Practice	Kakinoki	(Review) Report
39,40	Choice of Chinese medicine by tongue diagnosis(2)	Practice	Kakinoki	(Review) Report
41,42	Choice of Chinese medicine by tongue diagnosis(3)	Practice	Kakinoki	(Review) Report
43,44	Guidance of health, life, and dietary by tongue diagnosis	Practice	Kakinoki	(Review) Report
45,46	Examination2 Case presentation	Examination	Kakinoki	Feedback
47,48	Preparation of homebound treatment	Practice	Tada	(Preparation) Understanding of instrument
49,50	Choice of homebound treatment instrument	Practice	Tada	(Review) Report
51,52	Basic skill of homebound treatment with water(assistant)	Practice	Tada	(Preparation) Vacuum Syringe
53,54	Basic skill of homebound treatment with water(surgeon)	Practice	Tada	(Preparation) Engine Turbine
55,56	Denture repair for bedridden elderly	Practice	Tada	(Review) Report
57,58	Denture adjustment for bedridden elderly	Practice	Kakinoki	(Review) Report
59,60	Review, Examination3, Unit certification test	Examination	Kakinoki	Feedback

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y. 久保田潤平、唐木純一						

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 dentistry
- 2.Understanding the basic dysphagia rehabilitation
- 3.Increasing the ability of evaluate the research of clinical and basic

Textbooks

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
percentage of attendance	15%
reports and presentations	85%

Etc

Certifying Physician:Kakinoki,Tada,Kubota
Accredited Specialist:Kakinoki,Tada
Supervisor of Gerodontology:Kakinoki
Certified Dentists:Kakinoki,Tada,Kubota
Supervisor of Disability Oral Health:Kakinoki
Certified Dentists of Dysphagia Rehabilitation:Kakinoki
Certified Dentists of Complementary and Alternative Medicine:Kakinoki,Tada

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y. 久保田潤平、唐木純一						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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 papers	Kakinoki, Tada, Kubota, Karaki	Searching textbooks and reading papers

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

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 increase the ability of understanding the research.;

1. Understanding the basic integrative medicine
2. Understanding the basic Chinese medicine and western medicine
3. Understanding the basic complementary and alternative medicine, and applying clinical
4. Increasing the ability of evaluate the research of clinical and basic

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
percentage of attendance	15%
reports and presentations	85%

Etc

Certifying Physician:Kakinoki,Tada,Kubota

Accredited Specialist:Kakinoki,Tada

Supervisor of Gerodontology:Kakinoki

Certified Dentists:Kakinoki,Tada,Kubota

Supervisor of Disability Oral Health:Kakinoki

Certified Dentists of Dysphagia Rehabilitation:Kakinoki

Certified Dentists of Complementary and Alternative Medicine:Kakinoki,Tada

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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	Kakinoki, Tada, Kubota, Karaki	Lectures, Searching textbooks and reading papers

2019

Geriatric and Special Needs Dentistry (Advanced) (Geriatric and Special Needs Dentistry (Advanced))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

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 disability
3. 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
percentage of attendance	15%
reports and presentations	85%

Etc

Certifying Physician:Kakinoki,Tada,Kubota
 Accredited Specialist:Kakinoki,Tada
 Supervisor of Gerodontology:Kakinoki
 Certified Dentists:Kakinoki,Tada,Kubota
 Supervisor of Disability Oral Health:Kakinoki
 Certified Dentists of Dysphagia Rehabilitation:Kakinoki
 Certified Dentists of Complementary and Alternative Medicine:Kakinoki,Tada

2019

Geriatric and Special Needs Dentistry (Advanced) (Geriatric and Special Needs Dentistry (Advanced))

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Compulsory / Elective (Research)	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakinoki Y.						
Instructor(s)	Kakinoki Y., Tada Y., Kubota J. 唐木純一						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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	Kakinoki, Tada, Kubota, Karaki	Searching textbooks and reading papers

2019

Basic surgical skills (Basic surgical skills)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Minor	Credits	2
Methods	Lecture or Practice	Total time	30	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

Pub.

Aut.

Reference Books

"Hyojun Geka " 13th ed.

Pub. Igaku Shoin, Tokyo

Aut. S. Kitano

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Class participation	30%
participation and attitude	20%
oral exam	50%

Etc

2019

Basic surgical skills (Basic surgical skills)

Grades	1 ~ 3 grades	Semester (or Term)	All Season	Subject	Minor	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Nakashima H.						
Instructor(s)	Nakashima H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Introduction and orientation	Lecture	Hideaki NAKASHIM A	Review
2	Metabolic response to surgical invasion in human body	Lecture	Hideaki NAKASHIM A	Review
3	Patients care during pre- and post-operative period and prevention of surgical complications	Lecture	Hideaki NAKASHIM A	Review
4	Basic surgical skills 1	Lecture and practical training	Hideaki NAKASHIM A	Review
5	Basic surgical skills 2	Lecture and practical training	Hideaki NAKASHIM A	Review
6	Patient safety and clinical path	Lecture	Hideaki NAKASHIM A	Review
7	Multimodality treatment and terminal care of cancer patients	Lecture	Hideaki NAKASHIM A	Review
8	Wound healing and sports medicine	Lecture	Hideaki NAKASHIM A	Review
9	Infection control in hospitals	Lecture	Hideaki NAKASHIM A	Review
10	Novel surgical devices	Lecture	Hideaki NAKASHIM A	Review
11	Robotic surgery and navigation surgery	Lecture	Hideaki NAKASHIM A	Review
12	Practical infection control and patient safety in hospitals	Lecture	Hideaki NAKASHIM A	Review
13	Training of endoscopic surgery	Lecture	Hideaki NAKASHIM A	Review
14	Training of endoscopic surgical skills using VR simulator	Lecture	Hideaki NAKASHIM A	Review
15	Management of nutrition and fluid / Oral examination	Lecture	Hideaki NAKASHIM A	Review

2019

Molecular Biological Morphology (Molecular Biological Morphology)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1
Methods	Practice	Total time	16	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

Etc

2019

Molecular Biological Morphology (Molecular Biological Morphology)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1
Methods	Practice	Total time	16	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Seta Y.						
Instructor(s)	Seta Y., Toyono T., Nakatomi M., Kataoka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Introduction What is morphological analysis	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
2	Preparing method of tissue section (1): Fixation	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
3	Preparing method of tissue section (2): Embedding tissue	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
4	Preparing method of tissue section (3): Sectioning tissue	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
5	Immunohistochemistry (1): Apply first antibody	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
6	Immunohistochemistry (2): Apply second antibody	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
7	in situ hybridization (1): Probe preparation	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture
8	in situ hybridization (2): Pre-treatment of section and antibody visualization of digoxigenin	Lecture Practice	Seta Toyono Nakatomi Kataoka	Review of lecture

2019

Molecular Biology Training Program (Molecular Biology Training Program)

Grades	1 ~ 3 grades	Semester (or Term)	During Vacation	Subject	Elective	Credits	1
Methods	Lecture or Practice	Total time	20	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

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

What is necessary is to use the experimental protocols in our laboratory.

Pub. Aut.

What is necessary is to purchase a reference book according to your own necessity

Pub. Aut.

(If you do not know what kind of reference book is suitable, we will be able to advise you).

Pub. Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
the posture in your experiment	100%

Etc

We accept your visit at any time at our office in the 10th floor of main building.

2019

Molecular Biology Training Program (Molecular Biology Training Program)

Grades	1 ~ 3 grades	Semester (or Term)	During Vacation	Subject	Elective	Credits	1
Methods	Lecture or Practice	Total time	20	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1,2	Western blotting #1 Osteoblasts were treated with BMP and then prepared whole cell lysates.	Lecture and Practice	Kokabu S and Matsubara T	Prepare for the protocol of preparation of whole cell lysates.
3,4	Western blotting #2 SDS-PAGE, Transfer, Blocking, and Incubation with primary antibody.	Lecture and Practice	Kokabu S and Matsubara T	Prepare for the principal of Western blotting
5,6	?Western blotting #3 Incubation with secondary antibody and Detection. ?RT-PCR #1 Osteoblasts were treated with BMP and then prepared total RNA.	Lecture and Practice	Kokabu S and Matsubara T	Prepare for the protocol of preparation of Total RNA.
7,8	RT-PCR #2 cDNA synthesis and perform PCR	Lecture and Practice	Kokabu S	Prepare for the principal of RT-PCR
9,10	RT-PCR #3 Agarose gel electrophoresis	Lecture and Practice	Matsubara T	Review what was learned

2019

Molecular Biology Training Program (Molecular Biology Training Program)

Grades	1 ~ 3 grades	Semester (or Term)	During Vacation	Subject	Elective	Credits	1
Methods	Lecture or Practice	Total time	20	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

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

Pub.

Aut.

Reference Books

Please select any book of reference if you want.

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
the posture in your experiment	100%

Etc

We accept your visit at any time at our office in the 10th floor of main building.

2019

Molecular Biology Training Program (Molecular Biology Training Program)

Grades	1 ~ 3 grades	Semester (or Term)	During Vacation	Subject	Elective	Credits	1
Methods	Lecture or Practice	Total time	20	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kokabu S						
Instructor(s)	Kokabu S., Matsubara T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1,2	?Lecture about gene transfection, including principals, fusion-protein and detection. ?Transfection of FLAG or V5-tagged genes into cells.	Lecture and Practice	Kokabu S	Prepare for the principal of gene transfection
3,4	Perform Luciferase assay.	Lecture and Practice	Kokabu S	Prepare for the principal of Luciferase assay
5,6	Detection of tagged-protein by Western blotting.	Lecture and Practice	Kokabu S	Prepare for the protocol of Western blotting
7,8	Transfection of GFP-fused protein into cells.	Lecture and Practice	Matsubara T	Prepare for the principal of GFP-fused protein
9,10	Observation of GFP-expressing protein using fluorescence microscope	Lecture and Practice	Matsubara T	Review what was learned

2019

Neurophysiological Techniques (Neurophysiological Techniques)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1
Methods	Practice	Total time	16	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S. 氏原 泉						

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 preparations
2. To understand how to record electrical signals from neurons
3. To understand how to evaluate pain in experimental animals

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
course attendance	30%
report	70%

Etc

2019

Neurophysiological Techniques (Neurophysiological Techniques)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	1
Methods	Practice	Total time	16	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Ono K.						
Instructor(s)	Ono K., Hitomi S. 氏原 泉						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-8	Making of cell and tissue preparations Patch-clamp recording Measurements of pain-related behaviors	Practice	Ono Hitomi Ujihara	Review of practices

2019

Imaging technique and its analysis (Imaging technique and its analysis)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	1
Methods	Practice	Total time	16 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*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

Pub. Aut.

Reference Books

Instruction manuals of CT, CBCT, MRI, and US
Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentation	50%
Oral examination	50%

Etc

2019

Imaging technique and its analysis (Imaging technique and its analysis)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	1
Methods	Practice	Total time	16 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y., Tanaka T., Kitou S., Oda M., Matsumoto S. Morimoto Y* ** ***, Tanaka T* ** ***, Oda M* ** ***, Wakasugi-Sato N** ***						
	*Advisor of Oral and Maxillofacial Radiology, **Specialist of Oral and Maxillofacial Radiology, ***Certified Dentists of Oral and Maxillofacial Radiology						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1-3	Imaging techniques and analytical methods of CT and dental CBCT	Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
4-6	Imaging techniques and analytical methods of MRI	Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook
7, 8	Imaging techniques and analytical methods of US	Practice	Morimoto, Tanaka, Wakasugi-Sato, Oda	Pre- and post-reading of textbook

2019

Brain Science for Eating Behavior (Brain Science for Eating Behavior)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	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

Pub. Aut.

Reference Books

Principles of Neural Science, Fifth Edition

Pub. Aut. Kandel ER, Schwartz JH, Jessell TM Siegelbaum SA, Hudspeth AJ.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
after-action report	100%

Etc

2019

Brain Science for Eating Behavior (Brain Science for Eating Behavior)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yoshino K.						
Instructor(s)	Yoshino K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Feeding behavior in human	Lecture	Yoshino	after-action report
2	Cognitive stage: input of information	Lecture	Yoshino	after-action report
3	Cognitive stage: processing of information	Lecture	Yoshino	after-action report
4	Cognitive stage: integration of information	Lecture	Yoshino	after-action report
5	Cognitive stage: cognitive function for target	Lecture	Yoshino	after-action report
6	Cognitive stage: selection of action	Lecture	Yoshino	after-action report
7	Cognitive stage: preparatory for movement	Lecture	Yoshino	after-action report
8	Cognitive stage: initiation and control of movement	Lecture	Yoshino	after-action report
9	Preparatory stage: initiation of jaw-movement	Lecture	Yoshino	after-action report
10	Preparatory stage: control of jaw-movement	Lecture	Yoshino	after-action report
11	Preparatory stage: processing of information	Lecture	Yoshino	after-action report
12	Preparatory stage: integration of information	Lecture	Yoshino	after-action report
13	Lingual stage	Lecture	Yoshino	after-action report
14	Pharyngeal stage	Lecture	Yoshino	after-action report
15	Esophageal stage	Lecture	Yoshino	after-action report

2019

Practice of Appropriate Dental Treatment in Health Care Insurance System (Practice of Appropriate Dental Treatment in Health Care Insurance System)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2
Methods	Practice	Total time	30 hours	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

Interpretation of Dental Fee Points
 Pub. Social Insurance Institute Aut.

Reference Books

You practice in your patient's case.
 Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	50%
Understanding degree	25%
Applicability	25%

You can learn 8 unit for 4 years maximum.

Etc

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

2019

Practice of Appropriate Dental Treatment in Health Care Insurance System (Practice of Appropriate Dental Treatment in Health Care Insurance System)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2
Methods	Practice	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	福泉 隆喜						
Instructor(s)	Fukuizumi T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1-15	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

2019

Physical Activity and Dentistry (Physical Activity and Dentistry)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	選択	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kujira Y.						
Instructor(s)	Kujira Y.						
	Kujira Y.						

Course Description

Learn about the injury in the mouth.

Attainment Objectives

Describe injuries in the mouth.

Textbooks

unnecessary
Pub.

Aut.

Reference Books

I will prepare.
Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attend	50%
Report	50%

Etc

Main Building third floor No.2 laboratory.

2019

Physical Activity and Dentistry (Physical Activity and Dentistry)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	選択	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kujira Y.						
Instructor(s)	Kujira Y.						
	Kujira Y.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Summary of Physical Activity and Dentistry	Exercises	Kujira Y.	Reading syllabus
2	Relation of food and in the mouth	Exercises	Kujira Y.	Find out about saliva
3	Role of gum	Exercises	Kujira Y.	Engagement and Chewing
4	Physical Activity and Clenching	Exercises	Kujira Y.	Engagement is strong sports
5	Engagement and balance	Exercises	Kujira Y.	Equilibrium function
6	The presence or absence of exercise habits and the rest of the tooth	Exercises	Kujira Y.	Among the movement and mouth
7	Clenching and Improvement of exercise capacity	Exercises	Kujira Y.	Clenching
8	Prevention effect Mouth guard	Exercises	Kujira Y.	Types and characteristics of Mouth guard
9	Prevention effect Mouth guard	Exercises	Kujira Y.	Obligation and Recommended Maintenance of Mouth guard
10	Prevention effect Mouth guard	Exercises	Kujira Y.	Maintenance of Mouth guard
11	Injury during exercise	Exercises	Kujira Y.	The part that was injured
12	Injury during exercise	Exercises	Kujira Y.	Injuries in the mouth
13	Injury during exercise	Exercises	Kujira Y.	A method of treatment of injuries in the mouth
14	Question-and-answer session	Exercises	Kujira Y.	Summarized in the report
15	Question-and-answer session	Exercises	Kujira Y.	presentation

2019

Theory of Statistical Analysis (Theory of Statistical Analysis)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	選択	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	深井 康成						
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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Theory of Statistical Analysis (Theory of Statistical Analysis)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	選択	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	深井 康成						
Instructor(s)	Fukai Y.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Probability theory (1)	Lecture	Fukai	Review of lecture
2	Probability theory (2)	Lecture	Fukai	Review of lecture
3	Data analysis	Lecture	Fukai	Review of lecture
4	Statistical terminology	Lecture	Fukai	Review of lecture
5	Statistical estimation	Lecture	Fukai	Review of lecture
6	Testing of statistical hypothesis (1) terminology	Lecture	Fukai	Review of lecture
7	Testing of statistical hypothesis (2) Hypothesis test for the population mean	Lecture	Fukai	Review of lecture
8	Testing of statistical hypothesis (3) Test of proportion	Lecture	Fukai	Review of lecture
9	Testing of statistical hypothesis (4) Sign test	Lecture	Fukai	Review of lecture
10	Testing of statistical hypothesis (5) Rank sum test	Lecture	Fukai	Review of lecture
11	Testing of statistical hypothesis (6) Test of goodness of fit, test of independence	Lecture	Fukai	Review of lecture
12	Testing of statistical hypothesis (7) Fisher's exact test	Lecture	Fukai	Review of lecture
13	Testing of statistical hypothesis (8) Hypothesis test for the population correlation coefficient	Lecture	Fukai	Review of lecture
14	Testing of statistical hypothesis (9) Analysis of variance	Lecture	Fukai	Review of lecture
15	Testing of statistical hypothesis (10) Bonferroni's multiple comparison	Lecture	Fukai	Review of lecture

2019

Advanced Medical Information Management (Advanced Medical Information Management)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Electice	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	中原 孝洋						
Instructor(s)	Nakahara T.						
	中原 孝洋						

Course Description

ICT is required for medical. While modeling, terminology and standardization are necessary for medical informatics and statistics. This course's theme are investigation of Medical information and application in medical site. And this class will consider the future of digital dentistry. In addition, we discuss discussion points on system construction and the consciousness gap between medical staff and patients.

Attainment Objectives

The goals of this course are to

1. be able to understand medical ICT.
2. be able to understand medical information ethics.
3. be able to introduce the modeling and standardization of medicine.
4. be able to optimize the medical ICT for site.

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	50%
Presentation	50%

Etc

2019

Advanced Medical Information Management (Advanced Medical Information Management)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Electice	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	中原 孝洋						
Instructor(s)	Nakahara T.						
	中原 孝洋						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Experience medical ICT.	Lecture and practice	Nakahara	Report
2	ICT and CAD/CAM for dental treatment. (1)	Lecture and practice	Nakahara	Report
3	ICT and CAD/CAM for dental treatment. (2)	Lecture and practice	Nakahara	Report
4	Medical information ethics , personal information protection and perception gap between medical staff. (1)	Lecture and practice	Nakahara	Report
5	Medical information ethics , personal information protection and perception gap between medical staff. (2)	Lecture and practice	Nakahara	Report
6	Presentation.(1)	Lecture and practice	Nakahara	Presentation Report
7	Bigdata and data mining.	Lecture and practice	Nakahara	Report
8	Robotics and RPA.	Lecture and practice	Nakahara	Report
9	Emphasizing the traceability system for medicine.	Lecture and practice	Nakahara	Report
10	Advantage and disadvantage of IoT.	Lecture and practice	Nakahara	Report
11	Presentation.(2)	Lecture and practice	Nakahara	Presentation Report
12	Medical information ethics	Lecture and practice	Nakahara	Report
13	Project management.	Lecture and practice	Nakahara	Report
14	Medical ICT for dental treatment.	Lecture and practice	Nakahara	Report
15	Conclusion and discussion.	Lecture and practice	Nakahara	Report

2019

Academic English for Research Purposes (Academic English for Research Purposes)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Academic English for Research Purposes	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuomi Kaiho						
Instructor(s)	Kaihou Y.						

Course Description

This course mainly focuses on developing skills to read scientific materials including original articles on dentistry. 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 read papers on dentistry efficiently.
- learn 1,000 new words.
- cultivate the habit of using English.

Textbooks

講義録医学英語

Pub. メジカルビュー社

Aut. 日本医学英語教育学会 / Nell L. Kennedy, 菱田治子

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Class participation	30%
How well reading materials have been understood	40%
Online materials	30%

Etc

Online materials students use are going to be chosen based on their needs.

2019

Academic English for Research Purposes (Academic English for Research Purposes)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Academic English for Research Purposes	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuomi Kaiho						
Instructor(s)	Kaihou Y.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Orientation Vocabulary Size Test	Seminar	Yasuomi Kaiho	Online materials
2	Chapter 1 Reading Medical Features in News Magazines Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapter 1 Review Online materials
3	Chapters 1 & 2 Reading Medical Features in News Magazines Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapters 1 & 2 Review Online materials
4	Chapters 2 & 3 Reading Medical Features in News Magazines Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapters 2 & 3 Review Online materials
5	Chapter 3 Reading Medical Features in News Magazines Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapter 3 Review Online materials
6	Chapter 7 Reading the Medical Research Paper Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapter 7 Review Online materials
7	Chapter 8 Reading the Medical Research Paper Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapter 8 Review Online materials
8	Chapter 9 Reading the Medical Research Paper Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapter 9 Review Online materials
9	Chapter 10 Reading the Medical Research Paper Online Materials	Seminar	Yasuomi Kaiho	Preparation for Chapter 10 Review Online materials
10	Reading an Original Article on Dentistry Online Materials	Seminar	Yasuomi Kaiho	Preparation for the article mentioned in Week 6 Online materials
11	Reading an Original Article on Dentistry Online Materials	Seminar	Yasuomi Kaiho	Preparation for the article mentioned in Week 6 Review Online materials
12	Reading an Original Article on Dentistry Online Materials	Seminar	Yasuomi Kaiho	Preparation for the article mentioned in Week 6 Review Online materials
13	Chapters 11 Reading the Case Report Online Materials	Seminar	Yasuomi Kaiho	Preparation Review Online materials

2019

Academic English for Research Purposes (Academic English for Research Purposes)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Academic English for Research Purposes	Credits	2
Methods	Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yasuomi Kaiho						
Instructor(s)	Kaihou Y.						

Lecture	Contents	Methods	Instructor	Preparation·Review
14	Chapter 12 Reading the Case Report Online Materials	Seminar	Yasuomi Kaiho	Preparation Review Online materials
15	Self-evaluation Vocabulary Size Test	Seminar	Yasuomi Kaiho	Preparation Review Online materials

2019

Advanced Bioanalytical Chemistry (Advanced Bioanalytical Chemistry)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	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) Thermodynamics
- 2) Kinetics
- 3) Equilibrium
- 4) Quantum chemistry
- 5) Statistical thermodynamics
- 6) Electrochemistry
- 7) Group theory

Textbooks

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

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

2019

Advanced Bioanalytical Chemistry (Advanced Bioanalytical Chemistry)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Takenaka S.						
Instructor(s)	Takenaka S.						
	Takenaka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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

2019

Advanced Bioanalytical Chemistry (Advanced Bioanalytical chemistry)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	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 enzymes
2. 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 methods
3. How to handle data, and statistical analysis method.

Textbooks

In this course, no textbook is available.

Pub.

Aut.

Reference Books

Understanding Bioanalytical Chemistry-Principle and Applications-(2009)

Pub. Pub. Wiley

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
	100%

Some reports on specific theme should be submitted. The submitted reports are used for the evaluation.

Etc

2019

Advanced Bioanalytical Chemistry (Advanced Bioanalytical chemistry)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Sato S.						
Instructor(s)	Satou S.						
	Satou S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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

2019

Advanced Intelligent System (Advanced Intelligent System)

Grades	1 grade	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kim H.						
Instructor(s)	Kim K.						
	Kim H.						

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 structures
- 2) Algorithmic design paradigms and its analysis
- 3) Analyze the performance of algorithms.

Textbooks

Before starting this class, teacher posts or notices the text book with reference one.

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
	100%

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.

Etc

Participants should review topics after lecture every times using the related text books and/or references.

2019

Advanced Intelligent System (Advanced Intelligent System)

Grades	1 grade	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kim H.						
Instructor(s)	Kim K.						
	Kim H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Introduction	Lecture	Kim H.	Homework of previously lecture
2	What are the advanced intelligent systems	Lecture	Kim H.	Homework of previously lecture
3	Medical engineering system	Lecture	Kim H.	Homework of previously lecture
4	Medical imaging system	Lecture	Kim H.	Homework of previously lecture
5	Basic algorithms	Lecture	Kim H.	Homework of previously lecture
6	Design and analysis of algorithms	Lecture	Kim H.	Homework of previously lecture
7	Data structures	Lecture	Kim H.	Homework of previously lecture
8	Basic data structures	Lecture	Kim H.	Homework of previously lecture
9	Lists	Lecture	Kim H.	Homework of previously lecture
10	Stacks, Queues	Lecture	Kim H.	Homework of previously lecture
11	Trees	Lecture	Kim H.	Homework of previously lecture
12	Search	Lecture	Kim H.	Homework of previously lecture
13	Binary search and AVL trees	Lecture	Kim H.	Homework of previously lecture
14	Graph	Lecture	Kim H.	Homework of previously lecture
15	Summary	Lecture	Kim H.	Homework of previously lecture

2019

Environmental Bio-adaptation (Environmental Bio-adaptation)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maeda T.						
Instructor(s)	Maeda K.						

Course Description

Bacterial can adapt any environments 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 bacterial 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance to the lecture	20%
final examination	80%

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

2019

Environmental Bio-adaptation (Environmental Bio-adaptation)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maeda T.						
Instructor(s)	Maeda K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
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

2019

Environmental Bio-adaptation (Environmental Bio-adaptation)

Grades	1 ~ 2 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Maeda T.						
Instructor(s)	Maeda K.						

Lecture	Contents	Methods	Instructor	Preparation· Review
10	Bacterial predation	Lecture	Maeda T.	Reading lecture materials before the lecture and careful re-reading after the lecture
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

2019

Functional Biomaterials (Functional Biomaterials)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	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

Textbook is not used. Reference book is as follows.
 Pub. Aut.

Reference Books

- An Introduction to Bioceramics (2nd Edition)
 Pub. Imperial College Press, 2013 Aut. L.L. Hench (ed.)
- Bioceramics and their Clinical Applications
 Pub. Woodhead Publishing, 2008 Aut. T. Kokubo (ed.)

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Midterm paper and final exam	100%

Etc

Students should read English handout distributed by PDF file in advance.

2019

Functional Biomaterials (Functional Biomaterials)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Miyazaki T.						
Instructor(s)	Miyazaki T.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
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

2019

Biomechanics (Biomechanics)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	32	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

Fundamentals of mechanics and biomechanics, in Japanese (ISBN 978-4-339-07230-3)
Pub. Aut. H. Yamada

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
short reports in each class	40%
presentations and reports of investigations	60%

Etc

2019

Biomechanics (Biomechanics)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	32	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
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.

2019

Biomechanics (Biomechanics)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	32	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Lecture	Contents	Methods	Instructor	Preparation-Review
14	Mechanical tests and finite element analyses of tissues & cells	Lecture	Yamada H.	preparation and review for the lectures and exercises.
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.

2019

Introduction to Oral and Maxillofacial Radiology (Introduction to Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2
Methods	Lecture	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y.						
	Morimoto Y						

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 tutorial 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

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Oral presentation	50%
Oral examination	50%

Etc

2019

Introduction to Oral and Maxillofacial Radiology (Introduction to Oral and Maxillofacial Radiology)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective subject	Credits	2
Methods	Lecture	Total time	30 hours	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Morimoto Y.						
Instructor(s)	Morimoto Y.						
	Morimoto Y						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
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

2019

Oral and Maxillofacial Surgery (Oral and Maxillofacial Surgery)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	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

Textbooks

Pub. Aut.

Reference Books

Pub. Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
reports of the individual lectures	100%

Etc

2019

Oral and Maxillofacial Surgery (Oral and Maxillofacial Surgery)

Grades	1 ~ 4 grades	Semester (or Term)	All Season	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Tominaga K.						
Instructor(s)	Tominaga K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
1	Embryology 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 tumors (1)	Lecture	Tominaga	Reports of the individual lectures
9	Malignant tumors (2)	Lecture	Tominaga	Reports of the individual lectures
10	Temporomandibular 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	-

2019

Clinical Research Design (Clinical Research Design)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture or Practice	Total time	30	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

Introduction to Evidence-Based Dentistry
 Pub. Nagasueshoten Aut.

Reference Books

Designing Clinical Research
 Pub. Lippincott Williams & Wilkins Aut. Stephen B Hulley

Guide to Practice-Based Research and Scientific Writing
 Pub. Ishiyaku Publishers Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
attendance	25%
deliverables during your coursework	50%
presentation	25%

Etc

2019

Clinical Research Design (Clinical Research Design)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry						
Responsible Instructor	Kakudate N.						
Instructor(s)	Kakudate N., Karaki J.						
	Kakudate N., Karaki J.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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 question You will learn how to formulate an answerable question using PICO.	Lecture and Practice	Kakudate	P I C O: Formulate an answerable question
10	Literature search You will learn how to search the literature using PubMed.	Lecture and Practice	Kakudate	Literature search using PubMed
11	Literature search You will learn how to search the literature using the Cochrane library and Minds.	Lecture and Practice	Kakudate	Literature search/Cochrane review, Minds
12	Literature search You will search the literature based on your own research question using PubMed.	Practice	Kakudate	Literature search using PubMed
13	Presentation Preparation You will perform critical appraisal of the literature based on your own research question	Presentation	Kakudate	Preparing PowerPoint presentations
14	Final presentation -Part 1-	Presentation	Kakudate Karaki	Preparing PowerPoint presentations
15	Final presentation -Part 2-	Presentation	Kakudate Karaki	Preparing PowerPoint presentations

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Karaki J., Hidaka K.						
Instructor(s)	Karaki J., Hidaka K.						

Course Description

【Language】 Japanese

This course deals with the basic concepts and knowledge of gerodontology.
It also enhances the development of students' skill in carrying out a microbial experiment.

Attainment Objectives

By the end of the course, students acquire fundamental knowledge about:

- (1) Oral and general health in elderly
- (2) Social Institution for elderly
- (3) Oral disease in elderly.
- (4) Outline the use of Polymerase Chain Reaction
- (5) Biological toxins

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	30%
attitude	20%
report	50%

Etc

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 3 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Karaki J., Hidaka K.						
Instructor(s)	Karaki J., Hidaka K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Introduction to gerodontology	Lecture	Junichi Karaki, Katsmi Hidaka	none
2	Social Institution for elderly	Lecture	Junichi Karaki, Katsmi Hidaka	review: Introduction to gerodontology
3	General remarks on current status of gerodontology	Lecture	Junichi Karaki	review: Social Institution for elderly
4	Characteristic of Oral disease in elderly	Practice	Junichi Karaki	review: General remarks on current status of gerodontology
5	Characteristic of Oral disease in elderly	Practice	Junichi Karaki	review: General remarks on current status of gerodontology
6	Sample Preparation for Polymerase Chain Reaction.	Lecture	Junichi Karaki	none
7	Polymerase Chain Reaction for detection and quantification of bacteria in periodontal pocket	Practice	Junichi Karaki	review: Sample Preparation for Polymerase Chain Reaction.
8	Polymerase Chain Reaction for detection and quantification of bacteria in periodontal pocket	Practice	Junichi Karaki	review: Sample Preparation for Polymerase Chain Reaction.
9	Polymerase Chain Reaction for detection and quantification of bacteria in periodontal pocket	Practice	Junichi Karaki	review: Sample Preparation for Polymerase Chain Reaction.
10	Polymerase Chain Reaction for detection and quantification of bacteria in periodontal pocket	Practice	Junichi Karaki	review: Sample Preparation for Polymerase Chain Reaction.
11	Introduction to bacterial enzyme assay	Lecture	Junichi Karaki	none
12	Cytotoxicity test of oral mucosa cell	Practice	Junichi Karaki	review: Introduction to bacterial enzyme assay
13	Cytotoxicity test of oral mucosa cell	Lecture	Junichi Karaki	none
14	Cytotoxicity test of oral mucosa cell	Practice	Junichi Karaki	review: Cytotoxicity test of oral mucosa cell
15	Cytotoxicity test of oral mucosa cell	Practice	Junichi Karaki	review: Cytotoxicity test of oral mucosa cell

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 3 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Karaki J., Hidaka K.						
Instructor(s)	Karaki J., Hidaka K.						

Course Description

【Language】 Japanese

This course deals with the basic concepts and knowledge of gerontology and gerodontology. It also enhances the development of students' skill in, carrying out

Attainment Objectives

By the end of the course, students acquire fundamental knowledge about:

- (1) Importance of quality of life in elderly
- (2) Common oral diseases in elderly
- (3) Determining the components of halitosis and microbial culture
- (4) Evidence search and presentation

Textbooks

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Attendance	30%
attitude	20%
report	50%

Etc

2019

Geriatric Dentistry (Geriatric Dentistry)

Grades	1 ~ 3 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2
Methods	Lecture or Practice	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Karaki J., Hidaka K.						
Instructor(s)	Karaki J., Hidaka K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
1	Quality of Life	Lecture	Junichi Karaki, Katsumi Hidaka	none
2	Quality of Life	Lecture	Junichi Karaki, Katsumi Hidaka	review:Quality of Life
3	Xerostomia	Lecture	Junichi Karaki,	review:Quality of Life
4	Xerostomia	Lecture	Junichi Karaki,	review:Xerostomia
5	Complementary and Alternative Medicine	Lecture	Junichi Karaki,	review:Xerostomia
6	Aspiration Pneumonia	Lecture	Junichi Karaki,	review:Complementary and Alternative Medicine
7	Aspiration Pneumonia	Lecture	Junichi Karaki,	review:Aspiration Pneumonia
8	Functional Assessment	Lecture	Junichi Karaki,	review:Aspiration Pneumonia
9	Functional Assessment	Lecture	Junichi Karaki,	review:Functional Assessment
10	Risk Management	Lecture	Junichi Karaki, Katsumi Hidaka	review:Functional Assessment
11	Sampling and microbial culture	Lecture	Junichi Karaki,	review:Risk Management
12	Determining the components of halitosis	Practice	Junichi Karaki,	review:Sampling and microbial culture
13	Microbial culture	Practice	Junichi Karaki,	review:Sampling and microbial culture
14	Recent study of gerodontology	Practice	Junichi Karaki,	none
15	Recent study of gerodontology	Practice	Junichi Karaki,	review:Recent study of gerodontology

2019

Introduction to Polymer Physics (Introduction to Polymer Physics)

Grades	1 ~ 2 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Mochizuki S.						
Instructor(s)	Mochiduki S., Sakurai K.						

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

Basic Polymer Science(The Society of Polymer Science)ISBN-10:4807906356
Pub. Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Report	100%

Etc

2019

Introduction to Polymer Physics (Introduction to Polymer Physics)

Grades	1 ~ 2 grades	Semester (or Term)	Winter	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Mochizuki S.						
Instructor(s)	Mochiduki S., Sakurai K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation·Review
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	Viscoelasticity	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.	-

2019

Biomaterials (Biomaterials)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	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

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
Active participation to the class	30%
Report	70%

Etc

2019

Biomaterials (Biomaterials)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Nakazawa K.						
Instructor(s)	Nakazawa K.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
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.	-

2019

Introduction to physical chemistry (Introduction to physical chemistry)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Takenaka S.						
Instructor(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) Thermodynamics
- 2) Kinetics
- 3) Equilibrium
- 4) Quantum chemistry
- 5) Statistical thermodynamics
- 6) Electrochemistry
- 7) Group theory

Textbooks

Before starting this class, teacher posts or notices the text book with reference one.

Pub.

Aut.

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

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

2019

Introduction to physical chemistry (Introduction to physical chemistry)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	30	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Takenaka S.						
Instructor(s)	Yokono T., Takenaka S.						

Contents

Lecture	Contents	Methods	Instructor	Preparation· Review
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
15	Kinetics	Lecture	Takenaka S. Ohno T.	Homework about fundamental subject

2019

Biomechanics (Biomechanics)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	32	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

Fundamentals of mechanics and biomechanics, in Japanese (ISBN 978-4-339-07230-3)
Pub.

Aut. H. Yamada

Reference Books

Pub.

Aut.

Grading Criteria and Method of Evaluation

Evaluation item	Ratio
short reports in each class	40%
presentations and reports of investigations	60%

Etc

2019

Biomechanics (Biomechanics)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	32	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Contents

Lecture	Contents	Methods	Instructor	Preparation-Review
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.

2019

Biomechanics (Biomechanics)

Grades	1 ~ 2 grades	Semester (or Term)	Spring	Subject	Elective	Credits	2
Methods	Lecture	Total time	32	Day		Period	
Course Affiliation	Department of Dentistry, Department of Oral Health Sciences						
Responsible Instructor	Yamada H.						
Instructor(s)	Yamada H.						

Lecture	Contents	Methods	Instructor	Preparation-Review
14	Mechanical tests and finite element analyses of tissues & cells	Lecture	Yamada H.	preparation and review for the lectures and exercises.
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.