Academic Year 2020

The Graduate School of Medical Sciences
Kumamoto University
(Master's Course)

Syllabus

The Graduate School of Medical Sciences
Kumamoto University

URL: http://www.medphas.kumamoto-u.ac.jp/en/medgrad/

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Lecture course timetable for Master's course (2020)

※A1～A5 : Compulsory subjects
B1～B8 : Elective Subjects

A1: Morphological Human Physiology A2: Functional Human Physiology A3: General Social Medicine A4: General Clinical Medicine A5: Bioethics
B1: Clinical Pathology B2: Infection and Immunology B3: Metabolic Informatics B4: Neuroscience B5: Heredity Reproduction Medicine
B6: Medical Informatics B7: Introduction for Laboratory Animal Experiments B8: Basic Radiology
C1: Medical Experiment Course

Month	Day	Mon.				Day	Tue.				Day	Wed.				Day	Thu.				Day	Fri.			
		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4
		8:45 ~ 10:15	10:30 ~ 12:00	13:15 ~ 14:45	15:00 ~ 16:30		8:45 ~ 10:15	10:30 ~ 12:00	13:15 ~ 14:45	15:00 ~ 16:30		8:45 ~ 10:15	10:30 ~ 12:00	13:15 ~ 14:45	15:00 ~ 16:30		8:45 ~ 10:15	10:30 ~ 12:00	13:15 ~ 14:45	15:00 ~ 16:30		8:45 ~ 10:15	10:30 ~ 12:00	13:15 ~ 14:45	15:00 ~ 16:30
4											1					2					3				
	6	C1				7	C1				8	C1				9	Health examination				10	C1			
	13	C1				14	C1				15	A1	A2			16	A1	A2	A1	A2	17	A1	A2	A1	C1
	20		A2	A1	A2	21	A1	A2	A1	A2	22	A1	A2	B8		23	A1	A2	A1	A2	24	A1	A2	A1	
	27		A2	A1	A2	28	A1	A2	A1	A2	29	※Holiday				30	A3		A4		1	A3		A4	
5	4	※Holiday				5	※Holiday				6	※Holiday				7	A3		A4		8	A3		A4	
	11	A3		A4		12	A3		A4		13	A3		B8		14	A3		A4		15		A5	A4	
	18		B2	B3	B4	19	B5	B2	B3	B4	20	B5	B2			21	B5	B2	B3	B4	22	B5	A5	B3	B4
	25		B2	B3	B4	26	B5	B2	B3	B4	27	B5	B2			28	B5	B2	B3	B4	29	B5	A5	B3	B4
6	1			B6	B1	2			B6	B1	3					4	B8		B6	B1	5	B8	A5	B6	B1
	8			B6	B1	9			B6	B1	10	B8				11	B8		B6	B1	12			B6	B1
	15					16					17					18					19				
	22					23					24					25					26				

※"B7 Introduction for Laboratory Animal Experiments" : Lecture will be given in the 3rd July and the 4th July.
※"B8 Basic Radiology" consists of lectures. The students, who complete this B8 subject, will be allowed to perform the RI experiments without additional training.
※Other seminars are irregularly opened from 17:30.

Lecture Room: Lectures offered by several instructors (omnibus classes) will be given in the Lecture Room 2 on the 3rd floor of the Medical Education & Library Building.

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I. The objective and principle

The Graduate School of Medical Sciences of Kumamoto University was established to produce researchers, educators and highly specialized professionals who have advanced medical and life-science knowledge, as well as critical thinking skills.

The Master's Course (Division of Medical Sciences) was established to provide graduates from universities, other than from medical, dental and veterinary schools (departments), and those who are recognized as having attainments equal to or greater than graduation, with a basic knowledge of medicine and life sciences. The course encourages them to become researchers and educators who are able to take on the new medical and health care challenges brought about by technological innovation. The course also aims to develop highly specialized professionals who have strong expertise, and who can play leading roles in the areas of medicine, health care and life sciences.

Feature 1

Kumamoto University has established Joint Research Center for Human Retrovirus Infection, the Institute of Resource Development and Analysis and the Institute of Molecular Embryology and Genetics as its medical research centers. With these institutions as a core, advanced research is conducted especially in the fields of infection and immunology, medical embryology, medical genetics, the brain and neuroscience. Since these fields are broadly included in life science, we accept a wide range of persons from various faculties not limited to those of medical, dental and veterinary sciences. By providing them with distinctive education, we can foster unique human resources and facilitate the development of research.

Feature 2

Kumamoto University Hospital is actively engaged in highly-sophisticated medical treatment such as gene testing, gene therapy for various diseases (genetic disorder, cancer, AIDS and other infectious diseases) and organ transplantation including liver and kidney. To provide such medical treatment, not only doctors but specialists with advanced medical knowledge covering diverse fields are required and it is imperative to cultivate such specialists. In the Master's Course, we have built up an educational system to cultivate human resources who meet these needs through education concerning the fundamentals of highly-sophisticated medical treatment and clinical medicine.

II. Curriculum Policy

Our curriculum focuses on developing knowledge and skills as described below, through research guidance that includes omnibus-style lectures and one-on-one education. We do this to produce researchers, educators and highly specialized professionals who have sophisticated expertise, and who will be active in the fields of medical and life science.

1. Interdisciplinary knowledge needed to solve multidisciplinary problems relating to medical and life sciences
2. Special knowledge of advanced medical care that will allow the student to contribute to health promotion both inside and outside Japan
3. The ability to conduct research that covers the latest medical and life science advancements brought about by technological innovation

III. Degree

In the Graduate School of Medical Science, we confer a master's degree (master of medical science) to students who meet the requirements for completion.

IV. Completion requirements

Students should acquire the prescribed credits (compulsory subject 25 credits, elective subject 5 credits, total 30 credits or more) within a period of 2 years or longer, and pass the master's thesis review and final examination.

Early Completion System

Students in 1st year of our Master's course who wish to continue their research in our Doctoral course, as well as who is expected to complete Master course with required credit by excellent grade, will be able to complete 1 year earlier than the designated period.

Condition: have made an oral presentation (including poster presentation) as the leading presenter at nationwide or international conferences.

V. Diploma Policy

1. Requirements for awarding degrees

Students should acquire 30 credits or more within a period of 2 years or longer, and pass the Master's thesis review and final examination. However, for those who have made excellent achievements, the academic period

of attendance can be 1 year.

2. Screening criteria of a thesis
   1) The background and objectives of the research, experimental methodology, result of experiments and its interpretation, should also be included. In addition, a discussion including bibliographic consideration should be included as well.
   2) The thesis should be prepared in accordance with the required documentation methodology.
3. Assessment criteria for the final examination
   1) The examinee fully comprehends the content of his/her research and is able to explain it in detail.
   2) The examinee is able to logically analyze the issues raised in his/her research.
   3) The examinee has advanced knowledge in the field of his/her research.
   4) The examinee has basic knowledge about fields related to his/her research.

VI. Course information

1. Lecture course/subject and credit
   1) Curriculum outline

Subjects	Credits	Subjects	Credits
A Compulsory subjects		**B Elective Subjects**	
A1 Morphological Human Physiology	2	B1 Clinical Pathology	1
A2 Functional Human Physiology	2	B2 Infection and Immunology	1
A3 General Social Medicine	2	B3 Metabolic Informatics	1
A4 General Clinical Medicine	2	B4 Neuroscience	1
A5 Bioethics	1	B5 Heredity Reproduction Medicine	1
		B6 Medical Informatics	1
A6 Exercises in Medical Sciences	8	B7 Introduction for Laboratory Animal Experiments	1
A7 Study in Medical Science	8		
		B8 Basic Radiology	1
http://www.medphas.kumamoto-u.ac.jp/en/medgrad/gakunai/rishu/		C1 Medical Experiment Course	1
		C2 Medical and Life Science Seminar	1

Completion requirements

Compulsory subject	25 credits	
Elective subject	5 credits	or more
Total	30 credits	or more

2. Notandum for course registration
   1) About A6 Exercises in Medical Sciences and A7 Study in Medical Science
      "A6 Exercises in Medical Sciences" and "A7 Study in Medical Science", described on page 2, are comprised of Journal club, learning of experimental planning and technique, practical experiments at the department students belong to, and it is necessary to complete master's thesis and the public presentation (the oral examination).
   2) About C1 Medical Experiment Course
      The elective subject, "C1 Medical Experiment Course" requires students to attend more than 8 lectures a year for credit. Attendance will be taken in all of these courses.
   3) About C2 Medical and Life Science Seminar
      "Medical and Life Science Seminar", "Learning from Experienced Doctors Seminar" and "International Biomedical Research Seminars", require students to attend more than 8 lectures for credit before completion of their Thesis research. Write 1 essay based on 1 talk chosen from more than 8 lectures.
      Length of the essays should be 250-500 words. Attendance will be taken in all of these courses. Send each essay to the supervisor (inviter of the talker) of the talk within one month by E-mail (not by hard copy or any other digital media).

3. Course registration
   At the beginning of the first year, submit all courses that you wish to take within two years to the Student Affairs Section. The subjects listed in the course registration will be registered with the Academic Affairs Information System (SOSEKI) by Student Affairs Section. Please talk to your supervisor about which courses you want to take.

4. Type of Class / Lecture room

1) Type of Class

Lectures of all subjects will be given from April to June. Attendance will be taken.

2) Lecture course timetable

Lecture-style classes will be held in 90-minute sessions.

Lectures are scheduled as follows. If there are any students who can't understand Japanese, the lectures will be given in English (or it may be a combination of English and Japanese).

1st period	8:45~10:15	3rd period	13:15~14:45
2nd period	10:30~12:00	4th period	15:00~16:30

3) Lecture room

Lectures offered by several instructors (omnibus classes) will be given in the Lecture Room 2 on the 3rd floor of the Medical Education & Library Building. The location of the lecture room is shown on the campus map (the last page). Refer to it in advance or ask your academic advisor, if necessary.

4) Cancellation of classes

Classes will be cancelled during the time when Kumamoto City is under an emergency warning (called "Tokubetsu-Keihou" in Japanese).

Notifications regarding cancellation classes due to other reasons will be sent via e-mail and the website of the GSMS. We will also notify you about the date and time of supplementary classes.

*Website of the GSMS: http://www.medphas.kumamoto-u.ac.jp/en/medgrad/gakunai/rishu/

5. Assessment of Academic Grades

The grades are evaluated based on the evaluation criteria described in the syllabus for each subject. The grades will be disclosed at SOSEKI, so please check on your own.

Each course director in charge of a particular subject of the Lecture Series is responsible for the assessment of academic grades for the corresponding subject. If there is a disagreement between the course director and instructors of the class in regards to their information and instructions, please be aware that information provided by the course director prevails over that of any other instructors. Submit all assignments (e.g., paper summaries and reports) directly to your directors/instructors, not to clerical members at the laboratory. Assignments may be submitted via e-mail; in this case, be sure to keep a transmission record.

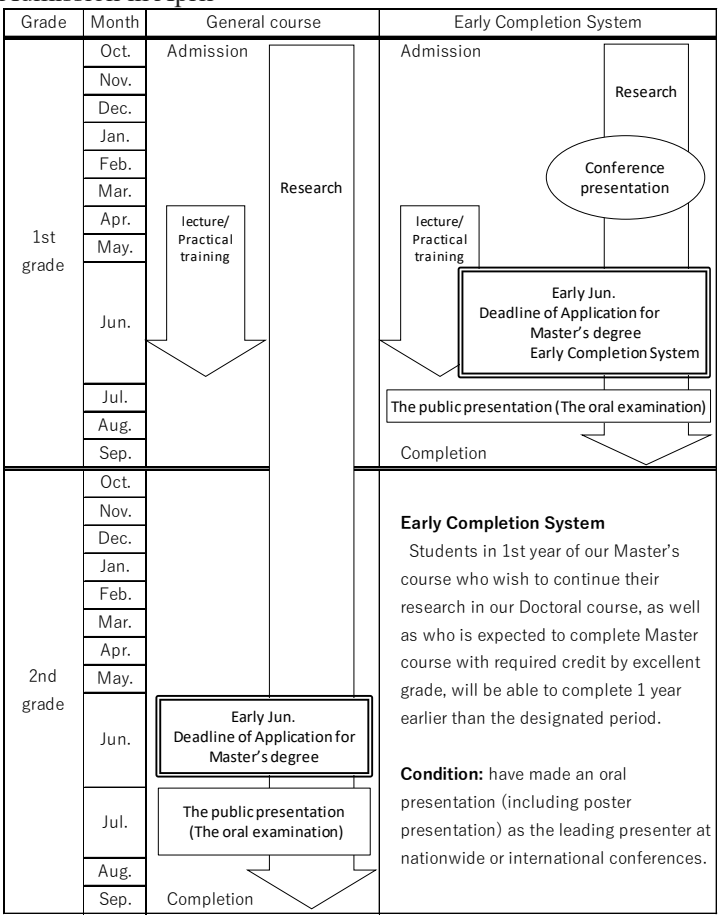
6. Grade Appeals System

We have grade appeals system for all students. Please refer to the notification which will be posted around the evaluation period on the bulletin board for the detail.

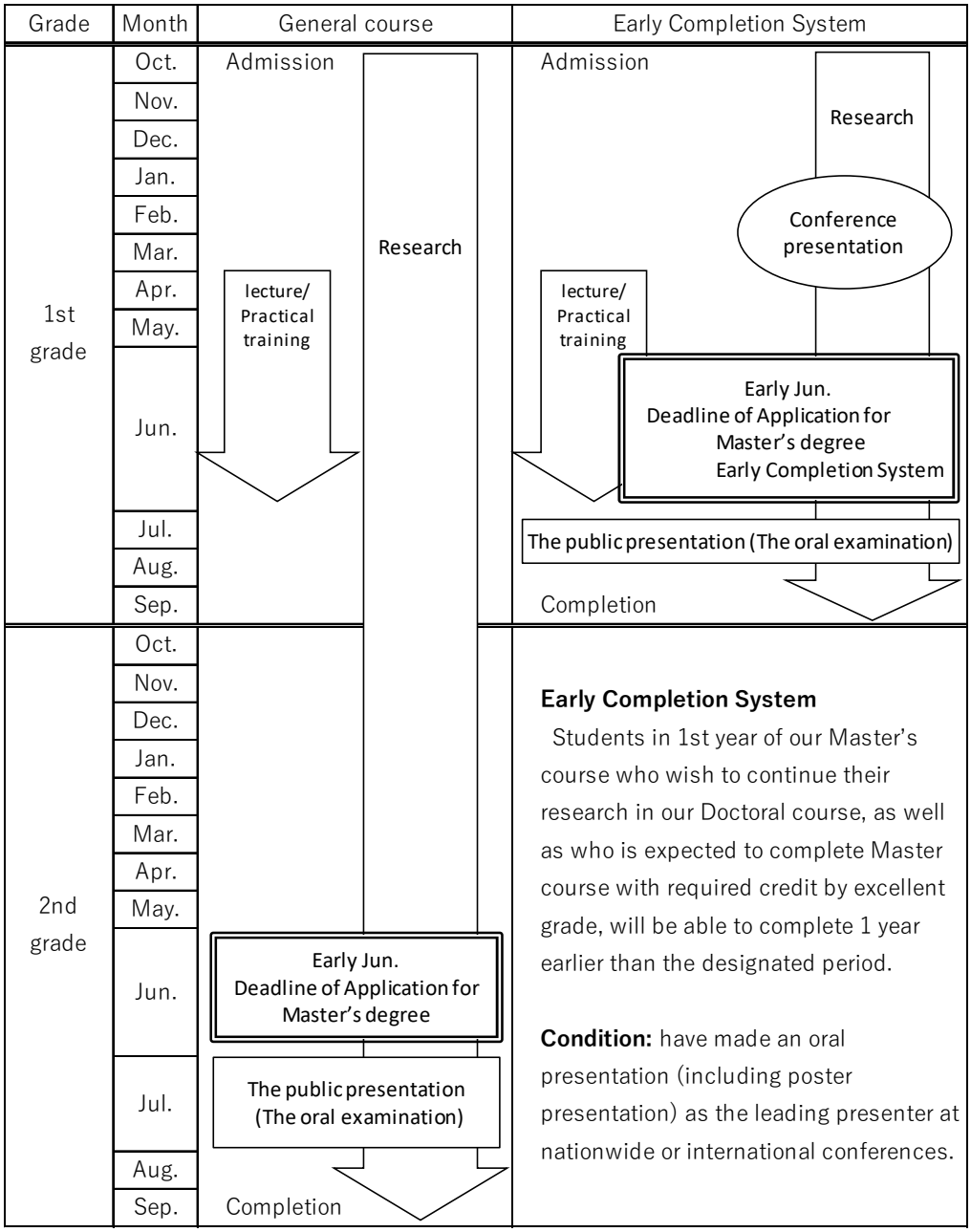
VII. Other information

Schedule until completion

Admission in April



Admission in October



Compulsory subjects
（9 credits）
A1～A5

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-000-79-2	2020spring	Graduate School of Medical Sciences(10010)	1, 2	2	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Morphological Human Physiology(Morphological Human Physiology A1)	Wakayama Tomohiko, SHIMAMURA Kenji, Era Takumi, Fukuda Takaichi, Komohara Yoshihiro, Ogawa Minetaro, Ooba Takashi, Itou Takaaki, Fujihara Yukio

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	Didactic manner, utilizing Power point, OHP and others.
Course Goals(授業の目的)	Understanding normal structure of human body by anatomy, histology and embryology and mechanism of disease by pathology.
Course Achievement Targets(到達目標)	Understanding normal structure of human body by anatomy, histology and embryology and mechanism of disease by pathology.
Course Outline(授業の概要)	Explaining systematically normal structure of human body with gross anatomic and microscopic level, and ontogenic perspectives. Explaining the mechanism of diseases classified systematically.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	04/15	1st　Anatomy1　Fukuda Takaichi	Anatomy 1 General Anatomy, Bone and Muscle
2	04/16	1st　Anatomy2　Fukuda Takaichi	Anatomy 2　Caeduovasicular and Respiratory system
3	04/16	3rd　Histology1　Wakayama Tomohiko	Histology1　General histology
4	04/17	1st　Anatomy3　Fukuda Takaichi	Anatomy3　Kidney and Urinary system
5	04/17	3rd　Histology2　Wakayama Tomohiko	Histology2　Particular histology 1 Endocrine system
6	04/20	3rd　Histology3　Wakayama Tomohiko	Histology3　Particular histology 2　Reproductive system
7	04/21	1st　Anatomy4　Fukuda Takaichi	Anatomy4　Nervus system
8	04/21	3rd　Embryology1　Ooba Takashi	Embryology1　Development and maturation of germ cells. Maturation of ovum. Fertilization
9	04/22	1st　Histology4　Wakayama Tomohiko	Histology4　Particular histology 3　Alimentary system
10	04/23	1st　Pathology1 Komohara Yoshihiro	Pathology1　Inflammation
11	04/23	3rd　Pathology2　Fujihara Yukio	Pathology2　Circulatory disturbance
12	04/24	1st　Pathology3　Fujihara Yukio	Pathology3　Metabolic disorder
13	04/24	3rd　Pathology4　Itou Takaaki	Pathology4　Tumor
14	04/27	3rd　Embryology2　Era Takumi	Embryology2　Early embryonic development. Formation of endoderm
15	04/28	1st　Embryology3　Ogawa Minetaro	Embryology3　Specification of mesoderm cell lines
16	04/28	3rd　Embryology4　Shimamura Kenji	FEmbryology4　ormation and regionalization of ectoderm

Required Textbook(テキスト)	
Reading List(参考文献)	
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Assessment will be decided based on attendance including report on each lecture and class tests on each lecture. Assessing them comprehensively.
Language Used in Instruction(使用言語)	Japanese and English
Textbook/Material Language(教科書・資料の言語)	Combination of Japanese and English
Course Based on Practical Work Experience(実務経験を活かした授業)	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-001-79-2	2020spring	Graduate School of Medical Sciences(10020)	1, 2	2	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Functional Human Physiology(A2)	Oshiumi Hiroyuki, Tomizawa Kazuhito, Sashida Goro, YAMAGATA Kazuya, Sou Bunketsu, OGURA Teru, Oota Kunimasa, Awai Hirotake

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	Face-to-face class.
Course Goals(授業の目的)	The goal of this course is to understand and discuss how the human body's molecules, cells, tissues, and organs function in light of physiology and cell biology.
Course Achievement Targets(到達目標)	1.The classes dealing with cell biology illustrate the structure of the cell membrane; transport and signal transduction across the membrane; protein transport, modification, arrangement, degradation, as well as the cell organelles involved in these functions; cytoskeletons; and the molecular motors that control cell type and motility, and molecular mechanisms of cancer development due to dysregulation of genes expression. 2. The classes that deal with physiology illuminate neurological functions (e.g. senses, motion, and memory) as well as cellular and molecular mechanisms that maintain the homeostasis of a living organism. 3.Classes dealing with biochemistry illustrate metabolic pathways in the human body and their relation to pathological conditions. 4.Classes of immunology cover the molecules, cells, tissues, and organs that comprise the immune system, and instruct the molecular mechanism by which the immune system recognizes and removes various infectious organisms.
Course Outline(授業の概要)	This course provides students with opportunities to understand and discuss how the human body's molecules, cells, tissues, and organs function in light of physiology and cell biology. Cell biology helps students understand how cells, the basic unit of the human body, work. Physiology, on the other hand, helps students understand the mechanisms behind the human body's physiological functions.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	04/15	2nd period, OSHIUMI Hiroyuki	Immune response to viral infection
2	04/16	2nd period, SONG Wen-Jle	Structure and function of the visual system
3	04/16	4th period, AWAI Hirotake	Types of T cells and their functions
4	04/17	2nd period, IRIE Atsushi	Autoimmune disorders
5	04/20	2nd period, SASHIDA Goro	Hematopoietic stem cell function
6	04/20	4th period, SASHIDA Goro	Epigenetic alteration in leukemia
7	04/21	2nd period, TOMIZAWA Kazuhito	Mechanism of homeostasis in living organism
8	04/21	4th period, TOMIZAWA Kazuhito	Learning and emotional memory
9	04/22	2nd period, IWAMOT Kazuya	Transposons in neurons
10	04/23	2nd period, NAKACHI Yutaka	Sexual differentiation of the brain
11	04/23	4th period, YAMAGATA Kazuya	Glucose metabolism and disorders
12	04/24	2nd period, YAMAGATA Kazuya	Lipid metabolism and disorder
13	04/27	2nd period, Yamanaka Kunitoshi	Intracellular protein dynamics I
14	04/27	4th period, Yamanaka Kunitoshi	Intracellular protein dynamics II
15	04/28	2nd period, OSHIUMI Hiroyuki	Vaccine and adverse reactions
16	04/28	4th period, SONG Wen-Jle	Plasticity of the visual system

Required Textbook(テキスト)	No textbooks have been specified but handouts summarizing the lecture will be distributed.
Reading List(参考文献)	1.Sylvia S. Mader, Human Biology, translated by Takeo Sakai and Takao Okada, Igaku-Shoin, October 2005 2.Bruce Alberts, Alexander Johnson, Peter Walter, Julian Lewis, Molecular Biology of the Cell, January 2008
Enrollment Conditions(履修条件)	Should have basic knowledge for biology.
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on the student's understanding of the course subject matter. The students' understanding will be evaluated on the basis of papers and quizzes related to the topics dealt with in class to be scored from 0 to 100. Final grades will be based on the average score of the papers and quizzes as well as participation in class discussions.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Japanese
Course Based on Practical Work Experience(実務経験	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-002-81-2	2020spring	Graduate School of Medical Sciences(10030)	1, 2	2	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
General Social Medicine(A3)	Nishitani Youko, Katou Takahiko, MATSUI Kunihiko, SASAO Ako, SOEJIMA Hirofumi, Gi Chiyounen, Lu Xi, Masuda Shota

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	PowerPoint will be used in the lectures, and active participation in the discussion is encouraged.
Course Goals(授業の目的)	Environmental and socio-medical sciences are vital spheres of medicine. Students will study health care and legal measures designed to protect an individual's basic human rights and ensure public safety.
Course Achievement Targets(到達目標)	Students will study health care and legal measures designed to protect an individual's basic human rights and ensure public safety.
Course Outline(授業の概要)	This course consists of some socio-medical fields; health medicine, public health, and forensic medicine. Classes on health medicine provide the clinical nutrition. Classes on public health include practical lectures on environmental dynamics; the relationship between the environment and people; environmental indicators and assessment; establishing and maintaining environmental standards; the concept of public health; nurturing a healthy society through preventive medicine; and epidemiology, the discipline that underpins public health. Lectures on forensic medicine lay the groundwork for everything from identifying and classifying causes of death to medical, legal, and social aspects of death.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	04/30	1st period Takahiko Katoh	Public Health: Studies General Theory and Concepts
2	04/30	2nd period Takahiko Katoh	Public Health: Epidemiology
3	05/01	1st period Takahiko Katoh	Public Health: Behavioral Medicine
4	05/01	2nd period Kunihiko Matsui	Community medicine in Kumamoto, Japan: current situation and issues
5	05/07	1st period Shota Masuda	Public Health: Sets of statistics of a population in Japan
6	05/07	2nd period Shota Masuda	Public Health: Infection control measures in Japan
7	05/08	1st period Chang-Nian Wei	Environmental Medicine: Health, Lifestyles, and Improving Public Health
8	05/08	2nd period Chang-Nian Wei	Environmental Medicine: Assessing Lifestyles
9	05/11	1st period Yoko Nishitani	Forensic Medicine: Definition of Forensic Medicine
10	05/11	2nd period Yoko Nishitani	Forensic Medicine: Forensic Medicine and Science
11	05/12	1st period Yoko Nishitani	Forensic Medicine: Social Aspects of Death (1)
12	05/12	2nd period Yoko Nishitani	Forensic Medicine: Social Aspects of Death (2)
13	05/13	1st period Xi Lu	Public Health: Medical Statistics
14	05/13	2nd period Ako Sasao	Forensic Medicine: Techniques for Investigating Unnatural Deaths
15	05/14	1st period Hirofumi Soejima	General Medicine: Coronary Risk Factor
16	05/14	2nd period Hirofumi Soejima	General Medicine: Ischemic Heart Disease

Required Textbook(テキスト)	Handouts summarizing lecture topics.
Reading List(参考文献)	・ “Public Health & Preventive Medicine” by Maxy-Rosenan-Last: (14 edit) Appleton & Lange. 1998, ・ “Forensic Pathology” by Bernard Knight, 2nded.., Arnold, London, Sydney and Auckland, 1996.
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Students will be graded on the basis of mini-reports submitted after each class. Students are required that the average score of mini-reports will be 60% or over.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Japanese
Course Based on Practical Work Experience(実務経験を活かした授業)	Applicable (A teacher with practical work experience in Public Health, Regional Medicine, or Forensic Medicine will lecture)

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-003-82-2	2020spring	Graduate School of Medical Sciences(10040)	1, 2	2	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
General Clinical Medicine(A4)	MUKOYAMA Masashi, IWAI Masanori, SHINRIKI Satoru, FUKUI Toshihiro, TSUJITA Kenichi, KATABUCHI Hidetaka, SAKAGAMI Takuro, NAKANE Shunya, YAMASHITA Yoichi, INOUE Toshihiro, ADACHI Masataka, NAKAMURA Kimitoshi, MATSUI Hirotaka, MATSUOKA Masao, TANAKA Motohiko, MIYAMOTO Takeshi

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture and Seminar
Teaching Method(授業の方法)	To provide lectures with bidirectional communications using slides and handouts.
Course Goals(授業の目的)	To learn about the art and science in various fields of clinical medicine and to get knowledge about recent topics on biomedical researches.
Course Achievement Targets(到達目標)	- To learn about the art and science in various fields of clinical medicine. - To get knowledge about recent topics on biomedical researches. - To learn about the history and recent advancement in clincial medicine, together with the clinical field where unmet needs reside.
Course Outline(授業の概要)	To provide lectures in the field of internal medicine (pulmonology, hepatology, hematology, cardiology, nephrology, neurology), surgery, pediatrics, obstetrics/gynecology, orthopedics, ophthalmology, and diagnostic medicine.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	04/30	3rd period by Masanori Iwai (pediatrics)	Recent neonatal intensive care: New therapeutic strategies for neonatal hypoxic ischemic brain injury
2	04/30	4th period by Masashi Mukoyama (nephrology)	Recent topics on nephrology: Chronic kidney disease and non-communicable diseases
3	05/01	3rd period by Satoru Shinriki (diagnostic medicine)	Pathobiology and diagnostics of cancer
4	05/01	4th period by Toshihiro Fukui (cardiovascular surgery)	Recent advancement in cardiovascular surgery
5	05/07	3rd period by Kenichi Tsujita (cardiology)	Pathophysiology and treatment of acute myocardial infarction: Involvement of coronary spasm viewed from genetic and environmental factors
6	05/07	4th period by Hidetaka Katabuchi (obstetrics/gynecology)	Etiology of female genital cancer
7	05/08	3rd period by Takuro Sakagami (pulmonology)	Recent advance in respiratory medicine
8	05/08	4th period by Shunya Nakane (neurology)	The relationship between the nervous system and immune system
9	05/11	3rd period by Yoichi Yamashita (surgery)	Surgical treatment for gastroenterological cancer
10	05/11	4th period by Toshihiro Inoue (ophthalmology)	The wonder of the visual system
11	05/12	3rd period by Masataka Adachi (nephrology)	Sodium and potassium handling by the kidney
12	05/12	4th period by Kimitoshi Nakamura (pediatrics)	Children’s health and screening test for diseases
13	05/14	3rd period by Hirotaka Matsui (diagnostic medicine)	Principles and applications of comprehensive gene testing
14	05/14	4th period by Masao Matsuoka (hematology)	Hematology and oncology
15	05/15	3rd period by Motohiko Tanaka (hepatology)	Recent advancement in hepatology and gastroenterology
16	05/15	4th period by Takeshi Miyamoto (orthopedics)	Pathophysiology of locomotive organs

Required Textbook(テキスト)	
Reading List(参考文献)	
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	To assess with the attitude during lectures together with reports presented after lectures.
Language Used in Instruction(使用言語)	Japanese and English
Textbook/Material Language(教科書・資料の言語)	Combination of Japanese and English
Course Based on Practical Work Experience(実務経験	Applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-004-81-2	2020spring	Graduate School of Medical Sciences(10050)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Bioethics(A5)	Kadooka Yasuhiro

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	PowerPoint presentation will be used in the lectures on ethics of advanced medicine and clinical ethics, and active participation in the discussion is encouraged. E-learning concerning research ethics (CITI e-learning system) will also be used.
Course Goals(授業の目的)	To introduce students to a wide range of ethical issues associated with medical treatment and biomedical science. To provide students with opportunities that will help them understand the basic issues inherent in the practice of medicine as well as the conduct of biomedical research and enable them to make logical arguments in exploring these problems. To give students an in-depth knowledge of relevant ethical guidelines and help them to understand their basis. To help students to forge a solid intellectual foundation in biomedical ethics
Course Achievement Targets(到達目標)	Students can recognize ethical and social implication of their graduate research in order to conduct sound research.
Course Outline(授業の概要)	This course explores the history, case examples, problems, principles, concepts, and relevant ideas regarding biomedical ethics, so students will gain the ethical footing they will need as medical researchers and healthcare professionals. The class is occasionally divided into small groups for discussion and students will be required to give presentations. Critically reading relevant articles from major journals, students examine problems associated with medical treatment and science. The topics this course covers are subject to change.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	05/15	2nd period　Introduction of biomedical ethics	Lcture and discussion on the theme
2	05/22	2nd period　Ethics of Advanced Medicine 1	Lcture and discussion on the theme
3	05/29	2nd period　Ethics of Advanced Medicine 2, Clinical Ethics 1	Lcture and discussion on the theme
4	06/05	2nd period　Clinical Ethics 2	Lcture and discussion on the theme

Required Textbook(テキスト)	Handouts will be provided at every class period.
Reading List(参考文献)	V. Ravitsky V, Fiester A, Caplan AL (eds). The Penn Center Guide to Bioethics. NY, Springer Publishing Company, 2009. Singer PA, Viens AM (eds). The Cambridge Textbook of Bioethics. UK, Cambridge University Press, 2008. The Hastings Center. Bioethics Briefing Book. (http://www.thehastingscenter.org/Publications/BriefingBook/Default.aspx) Bonnie Steinbock (Editor) The Oxford Handbook of Bioethics, Oxford University Press, Oxford, 2007. Kuhse H, Singer P　(eds). A Companion to Bioethics 2nd edition. London, Oxford University Press,2009. Beauchamp TL, Childress JF. Principles of Biomedical Ethics 4th edition. NY, Oxford University Press, 1994. Lo B. Resolving ethical dilemmas A Guide for Clinician. Lippincott Williams and Wilkins, Baltimore, 2000. British Medical Association. Medical Ethics Today 3rd edition. London, BMJ, 2011. Rachels J: The Element of Moral Philosophy 2nd ed., McGraw-Hill, 1993. Stephan G. Post (Ed). Encyclopedia of Bioethics, 3rd edition, Volume 1, Macmillan Reference USA, Thomson/Gale, 2004. Mitchan　C (Editor in Chief). Encyclopedia of Science, Technology, and Ethics. Volume 1, Macmillan Reference USA, Thomson/Gale, 2005.
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Student evaluations will be weighted on attendance, understanding and presentation at discussion and classes, completion of appointed CITI e-leaning classes, comment sheet, and so on.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Japanese
Course Based on Practical Work Experience(実務経験を活かした授業)	Applicable (Each lecture will be provided based on the teacher"s practical experiences of reserch review and clinical ethics support.)

Elective subjects

(5 credits)

B1～B8

C1・C2

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-005-99-2	2020spring	Graduate School of Medical Sciences(10080)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Clinical Pathology(Clinical Pathology B1)	SAKAGAMI Takuro, MATSUSHITA Shuzo, ARAKI Eiichi, TANAKA Motohiko, NAKAYAMA Hideki, TSUJITA Kenichi, YAMASHITA Satoshi, NAKAMURA Kimitoshi

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	PowerPoint will be used in lectures where active participation in discussion is encouraged.
Course Goals(授業の目的)	In Pathology and Pathological Conditions students learned about how diseases are classified and how they develop. Clinical Pathology picks up where that course left off with a focus on major diseases. This course provides students with opportunities to learn about specific clinical and pathological conditions along with their underlying molecular mechanisms so that they can expand their understanding of the nature of various diseases. Students will also learn about the particular characteristics of diseases that manifest themselves in the nervous system, motor system, and tissues as well as the mechanisms behind systemic conditions, such as immune deficiency.
Course Achievement Targets(到達目標)	Students learn about specific clinical and pathological conditions along with their underlying molecular mechanisms so that they can expand their understanding of the nature of various diseases.
Course Outline(授業の概要)	Experts in eight representative fields such as congenital diseases, metabolic disorders, immunodeficiency as systemic diseases and circulatory disturbance, inflammation, tumor and degenerative diseases of specific organ systems will give a series of lectures. See the detailed schedule and topics below. The lectures address pathogenesis of each representative disease and underlining molecular mechanisms.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	06/01	4th period Eiichi Araki	Diabetes/Metabolic disorder caused by impaired insulin action and its complications.
2	06/02	4th period Kimitoshi Nakamura	Liver diseases in inborn errors of metabolism.
3	06/04	4th period Satoshi Yamashita	Diagnosis and Treatment of Intractable Neurological Diseases.
4	06/05	4th period Shuzo Matsushita	Pathogenesis of HIV-induced immunodeficiency
5	06/08	4th period Takuro Sakagami	Anti-cytokine antibody and respiratory disease.
6	06/09	4th period Motohiko Tanaka	Liver cirrhosis and cancer: pathogenesis and treatment.
7	06/11	4th period Kenichi Tsujita	Pathology of acute coronary syndrome and antithrombotic therapy.
8	06/12	4th period Hideki Nakayama	The mechanism of periodontal disease will be explained pathologically, and students will learn the associations between periodontal disease and various systemic diseases.

Required Textbook(テキスト)	Textbooks are not specified. Handouts may be distributed by instructors.
Reading List(参考文献)	Individual instructor introduces references of related topics.
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Evaluation of this lecture series will be weighted by scores in test or reports focusing on the following points. 1) Whether the student correctly understands the terms,background and the current state in the selected area. 2)Whether the student correctly grasps the subject matter discussed in class. 3)Whether the student offers his/her own view. The instructors evaluate the scores of test or and reports on a scale of 1 to 10 (10 x 8 would yield a maximum score of 80 points). The total score at the end of the semester is multiplied by 5/4 to calculate the final grade.
Language Used in Instruction(使用言語)	English
Textbook/Material Language(教科書・資料の言語)	English
Course Based on Practical Work Experience(実務経験を活かした授業)	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-006-79-2	2020spring	Graduate School of Medical Sciences(10090)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Infection and Immunology(Infection and Immunology B2)	SAWA Tomohiro, OKADA Seiji, Sato Yorifumi, Oshiumi Hiroyuki, MATSUSHITA Shuzo, Maeda Yousuke, UENO Takamasa

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	PowerPoint and/or an overhead projector will be used in lectures where active participation in discussion is encouraged.
Course Goals(授業の目的)	Updated knowledge of various pathogenic microorganisms such as bacteria and viruses that are associated with infectious diseases in human-being is addressed to learn the route of transmission, mechanism of the diseases, prevention measures and treatment strategies. The lecture series especially focus on protective immunity to viral diseases including HIV-1.
Course Achievement Targets(到達目標)	To understand molecular bases for infections diseases,that may help development of effective prevention,treatment,and diagnosis of the diseases.
Course Outline(授業の概要)	The course addresses the introduction (bacteriology, virology) and particulars of various pathogenic organisms (including gram-positive and negative bacteria, a DNA or RNA viruses) focusing on topics of pathogenesis, control and prevention of infectious diseases and emerging and reemerging infectious diseases. The course addresses protective immunity of host against infectious diseases including HIV-1 infection. Especially, recent topics such as the mechanism of T-cell recognition of the viral antigens, differentiation of immune cells from hematopoietic stem cells and the strategy for the development of effective vaccine against HIV-1 infection will be discussed.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	05/18	2nd period Tomohiro Sawa	Introduction to bacterial infections/diseases.
2	05/19	2nd period Tomohiro Sawa	Pathogenic mechanisms of bacterial infections.
3	05/20	2nd period Yosuke Maeda	Basic and practical medical virology.
4	05/21	2nd period Yorifumi Sato	Pathogenesis of virus infection and diseases.
5	05/25	2nd period Takamasa Ueno	Cellular immune responses to viral infections.
6	05/26	2nd period Shuzo Matsushita	Neutralizing antibodies for vaccine development.
7	05/27	2nd period Hiroyuki Oshiumi	Viral infection and innate immunity.
8	05/28	2nd period Seiji Okada	Differentiation of hematopoietic stem cells to immunocompetent cell.

Required Textbook(テキスト)	No textbooks are specified for this lecture series. Some instructors may have handouts for the lecture.
Reading List(参考文献)	・“Fundamentals of Microbiology” by I. E. Alamoco. The Benjamin / Cummmings Publishing Company, Inc. ・McMichael AJ, Haynes BF: Lessons learned from HIV-1 vaccine trials: newpriorities and directions. Nat Immunol 2012, 13(5):423?427. ・Mouquet H, Nussenzweig MC: HIV: Roadmaps to a vaccine. Nature 2013, 496(7446):441?442.
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Evaluation will be weighted by active participation, brief evaluating test and/or a report for the theme announced after the lecture. Instructors look at the following when grading the tests and reports: 1) Whether the student correctly understands the background of the selected area under study. 2) Whether the student correctly grasps the subject matter discussed in class. 3) Whether the student offers his/her own view. The final score is calculated from the mean value of upper 6 score in the evaluations of tests and reports by 8 lectures.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Japanese
Course Based on Practical Work Experience(実務経験を活かした授業)	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-007-79-2	2020spring	Graduate School of Medical Sciences(10100)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Metabolic Informatics(B3)	Iwamoto Kazuya, Oike Yuichi, Araki Norie, Irie Atsushi, Nakachi Yutaka

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	PowerPoint will be used in the lectures, and active participation in the discussion is encouraged.
Course Goals(授業の目的)	Biological environment in vivo is controlled by various signals. Recent remarkable improvement of studies such as genomics, epigenomics, proteomics, metabolomics made it possible to analyze changes of in vivo environment systematically as well as comprehensively. In addition, analysis of the mechanism underlying disease onset, identification of therapeutic target and development of biomarker are also becoming possible by applying these methods. In the class, academic backgrounds of genomics, epigenomics, proteomics, metabolomics, principles of analytic technology and applications to disorder analysis are going to be lectured.
Course Achievement Targets(到達目標)	In the class, academic backgrounds of genomics, epigenomics, proteomics, metabolomics, principles of analytic technology and applications to disorder analysis are going to be lectured.
Course Outline(授業の概要)	In relation to genomics, epigenomics, proteomics and metabolomics, outlines of the academic backgrounds, the histories, the recent progresses will be given. Also, practical usage cases for development of therapeutic methods and drug discoveries including analysis of the mechanisms underlying disease onset, identification of therapeutic target will be explicated.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	05/18	3rd period　Norie Araki	Academic Background of Genomics, Proteomics and Metabolomics
2	05/19	3rd period　Atsushi Irie	Basic Principle of Genomics, Proteomics and Metabolomics (1)
3	05/21	3rd period　Atsushi Irie	Basic Principle of Genomics, Proteomics and Metabolomics (2)
4	05/22	3rd period　Norie Araki	Genomics, Proteomics and Metabolomics and frontier of disease research
5	05/25	3rd period　Yutaka Nakachi	Introduction to bioinformatics
6	05/26	3rd period Kazuya Iwamoto	General remarks of DNA　epigenetics（1）
7	05/28	3rd period　Kazuya Iwamoto	General remarks of DNA epigenetics（2）
8	05/29	3rd period　Yuichi Oike	Recent topics of metabolic study

Required Textbook(テキスト)	Not specified.
Reading List(参考文献)	
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on active class participation, paper summaries, and the final report. Grading will be based on the student's understanding of the course subject matter. The students' understanding will be evaluated on the basis of papers and quizzes related to the topics dealt with in class to be scored from 0 to 100. Final grades will be based on the average score of the papers and quizzes as well as participation in class discussions.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Japanese
Course Based on Practical Work Experience(実務経験を活かした授業)	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-008-79-2	2020spring	Graduate School of Medical Sciences(10110)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Neuroscience(B4)	SONG Wen-Jie, IWAMOTO Kazuya, SHIMAMURA Kenji, Mukasa Akitake, FUKUHARA Ryuji, INDOU Yasuhiro, MISUMI Yohei, ESUMI Shigeyuki

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	Lectures and multimedia presentations.
Course Goals(授業の目的)	The goal of this lecture is to assist students to learn the following from molecular to organism level, from neurodevelopmental, neuroanatomical, neurophysiological, and neurological perspectives: differentiation and development of the nervous system, structure and function of the neuronal circuits, etiology, symptom, and treatment of neurological disorders.
Course Achievement Targets(到達目標)	Classes on the development of the nervous system cover topics including regulation of neural stem cells, induction and regionalization of the central nervous system, and development of the cerebral cortex. Classes on neuroanatomy and neurophysiology focus on the structure and function of the cerebral cortex, with a stress on the auditory system. Classes on clinical neurological diseases cover the etiology, symptom, and treatment of disorders such as congenital insensitivity to pain with anhidrosis, Parkinson’s disease, Alzheimer’s disease, intractable neurological diseases including cerebral amyloid angiopathy, and other neurological disorders that require neurosurgery.
Course Outline(授業の概要)	Neuroscience is about our brain and is a currently rapidly growing discipline. Not only our sensory and motor functions but higher functions such as learning and memory, cognitive function, emotion, and mental function are all attributable to the function of our brain. The lecture is an introduction to the nervous system.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	05/18	4th period Kenji Shimamura; Neural development	Induction and regionalization of the central nervous system
2	05/19	4th period Wen-Jie Song; Hearing	Auditory neuroscience
3	05/21	4th period Shigeyuki Esumi; Neural development and neural anatomy	Structure and development of the cerebral cortex
4	05/22	4th period Ryuji Fukuhara; Psychiatry	Neuroscience from a mental disorder perspective
5	05/25	4th period Kazuya Iwamoto; Molecular Brain Sciences	Molecular genetics of psychiatric disorders
6	05/26	4th period Akitake Mukasa; Neurosurgery	Clinical neuroscience in Neurosurgery
7	05/28	4th period Yohei Misumi; Neurodegenerative diseases	Neuroscience in neurodegenerative diseases
8	05/29	4th period Yasuhiro Indo; Pain and sweating	Neuroscience of pain and sweating

Required Textbook(テキスト)	No textbook is specified but handouts summarizing the lecture will be distributed.
Reading List(参考文献)	Eric Kandel, James Schwartz, Thomas Jessell, Steven Siegelbaum, A.J. Hudspeth, Principles of Neural Science, Fifth Edition, 2012. Mark F. Bear, Barry W. Connors, Michael A. Paradiso, Neuroscience: Exploring the Brain, 2007.
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on active class participation, paper summaries, and reports related to the topics dealt with in each class.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Combination of Japanese and English
Course Based on Practical Work Experience(実務経験を活かした授業)	Applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-009-79-2	2020spring	Graduate School of Medical Sciences(10120)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Heredity Reproduction Medicine(B5)	NISHINAKAMURA Ryuichi, Sugawara Yasuhiko, Noguchi Ryo, TATEISHI Satoshi, TERADA Kazutoyo, Niwa Hitoshi, NAKAO Mitsuyoshi, NAKAMURA Kimitoshi, Koga Tomoaki

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	PowerPoint will be used in the lectures, and active participation in the discussion is encouraged.
Course Goals(授業の目的)	Heredity Reproduction Medicine aims at obtaining basic knowledge on molecular biology, developmental biology and genetics for the understanding of regenerative medicine, genetic medicine and transplant medicine. In this course, you will obtain essential knowledge on normal embryonic development and organ morphogenesis, and the origin and mechanism of diseases, their treatments. Furthermore, this course will up-to-date the knowledge on regenerative medicine, genetic defects, transplantations, kidney & liver transplantations, from basic and clinical views.
Course Achievement Targets(到達目標)	obtaining basic knowledge on molecular biology, developmental biology and genetics for the understanding of regenerative medicine, genetic medicine and transplant medicine.
Course Outline(授業の概要)	・Embryonic development and embryonic stem cells and tissue stem cells ・Kidney development and regenerative medicine ・Tumor suppression via regulation of mitosis and DNA repair ・Hereditary mitochondrial disease ・Diagnosis and gene therapy ・Epigenetic medicine ・Tissue and organ grafts ・Cardiac disease and regenerative medicine,

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	05/19	1st period　Ryuichi Nishinakamura	Developmental and regenerative medicine
2	05/20	1st period　Kimitoshi Nakamura	DNA diagnosis and therapy for genetic diseases
3	05/21	1st period　Yasuhiko Sugawara	Organ transplantation
4	05/22	1st period　Kazutoyo Terada	Mitochondrial disease
5	05/26	1st period　Ryo Noguchi	Cardiac disease and regenerative medicine
6	05/27	1st period　Hitoshi Niwa	Embryonic development and stem cells
7	05/28	1st period Satoshi Tateishi	Tumor suppression via regulation of cell cycle and DNA repair
8	05/29	1st period　Mitsuyoshi Nakao, Tomoaki Koga	Epigenetics in health and diseases

Required Textbook(テキスト)	Textbooks are not specified, and handouts will be distributed.
Reading List(参考文献)	
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	The students' understanding will be evaluated on the basis of papers and quizzes related to the topics dealt with in class to be scored from 0 to 100. Final grades will be based on the average score of the papers and quizzes, as well as the final report and active participation in class discussions.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Combination of Japanese and English
Course Based on Practical Work Experience(実務経験を活かした授業)	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-010-79-2	2020spring	Graduate School of Medical Sciences(10130)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Medical Informatics(B6 Medical Informatics)	USUKU Koichiro, Takahashi Takeshi, Nishikawa Takeshi, Nakamura Taishi

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture and Seminar
Teaching Method(授業の方法)	Lectures using Power point and OHP etc.
Course Goals(授業の目的)	Though medical care is a work to apply a medical advance to the medical practice, appropriate handling of informations occurring in the healthcare setting is essential to accomplish its purpose. The aim of this lecture is to acquire ability to handle information appropriately in the field of the healthcare setting through learning types of information in this field, way to handle information including personal information protection, and method to take useful information from patients and literature.
Course Achievement Targets(到達目標)	You may be able to learn how to handle information safely in the field of medical informatics and be familiar with clinical researches after accomplishing this course.
Course Outline(授業の概要)	In the medical information science, lectures will focus on the way how to handle medical records based on the viewpoint of the personal information protection, information literacy and ethic that health care workers should wear on exchanging medical records electronically, problems arising on exchanging medical information, points essential to focus on recording healthcare information using Information and Communication Technology(ICT), and advantage and disadvantage of electronic health record system. In the international medical cooperation studies, lectures will focus on topics of clinical researches including design, study plan making, ethical problems taking into account, analytical method of data, and critical examination method of the English article and procedure of the EBM using computers, and also focus on emergency care information and disaster medical care information.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	06/01	3rd period Takeshi Takahashi	Emergency Medical Information
2	06/02	3rd period Takeshi Takahashi	Disaster Medical care Information
3	06/04	3rd period Takeshi NIshikawa	Hypothesis and Design of Clinical Researches
4	06/05	3rd period Taishi Nakamura	Clinical Pass : its design
5	06/08	3rd period Koichiro Usuku	Handling medical records from the privacy protection view
6	06/09	3rd period Koichiro Usuku	Managing electronic medical records and Hospital information system
7	06/11	3rd period Takashi Nishikawa	Analysis and Presentation of Results of Clinical Researches
8	06/12	3rd period Taishi Nakamura	Regional Medical Cooperation

Required Textbook(テキスト)	Handouts will offer thorough e-Learning system.
Reading List(参考文献)	Informations will offer in each lecture.
Enrollment Conditions(履修条件)	No Prerequisite required.
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on active class participation, paper summaries, and the final report.Grading will be based on the student's understanding of the course subject matter. The students' understanding will be evaluated on the basis of papers and quizzes related to the topics dealt with in class to be scored from 0 to 100. Final grades will be based on the average score of the papers and quizzes as well as participation in class discussions.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Combination of Japanese and English
Course Based on Practical Work Experience(実務経験を活かした授業)	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-011-79-2	2020spring	Graduate School of Medical Sciences(10140)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Introduction for Laboratory Animal Experiments(B7)	TAKEO Toru, Nakamura Akira, KOJIMA Akihiro, ARAKI Kimi, ARAKI Masatake

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	Mainly PowerPoint will be used in lectures and active participation in discussions is encouraged.
Course Goals(授業の目的)	To provide students with opportunities to gain an understanding of laboratory animals (especially mice).
Course Achievement Targets(到達目標)	To understand the basics for experimental model animals, manipulation of mouse embryos, genetically engineered mice and experiments using animals.
Course Outline(授業の概要)	1) Reproductive engineering technology in mice 2) Infectious diseases of laboratory animals 3) Small animal experiment using molecular imaging 4) Production of knock-out mice, transgenic mice and genome editing 5) Production of gene trap mice 6) Principle of the RNA silencing technology

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	07/20	1st period, Reproductive engineering technology in mice I	Lecture about reproductive engineering technology in mice I
2	07/20	2nd period, Reproductive engineering technology in mice II	Lecture about reproductive engineering technology in mice II
3	07/20	3rd period, Infectious diseases of laboratory animals	Lecture about infectious diseases of laboratory animals
4	07/20	4th period, Small animal experiment using molecular imaging	Lecture about small animal experiment using molecular imaging
5	07/21	1st period, Production of transgenic mice	Lecture about production of transgenic mice
6	07/21	2nd period, Knock-out mice and genome editing	Lecture about knock-out mice and genome editing
7	07/21	3rd period, Production of gene trap mice	Lecture about production of gene trap mice
8	07/21	4th period, Principle of the RNA silencing technology	Lecture, discussion and preparation of report about principle of the RNA silencing technology

Required Textbook(テキスト)	・ Nagy, A., Gertsenstein, M., Vintersten, K. & Behringer, R. Manipulating the mouse embryo: a laboratory manual (3rd ed.). Cold Spring Harbor Laboratory Press, 2003. ・ Virginia E. Papaiannou and Richard R. Behringer. Mouse Phenotypes: A Handbook of Mutation Analysis. Cold Spring Harbor Laboratory Press 2005. ・ Fox, J.G., Barthold, S.W., Davisson, M.T., Newcomer, C.E., Quimby, F.W. &Smith, A.L. ・The mouse in biomedical research, vol.2 diseases (2nd ed.). Academic Press, 2007.
Reading List(参考文献)	
Enrollment Conditions(履修条件)	Knowledge about molecular biology
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on active class participation, paper summaries, and the final report. Grading will be based on the student's understanding of the course subject matter. The students' understanding will be evaluated on the basis of papers and quizzes related to the topics dealt with in class to be scored from 0 to 100. Final grades will be based on the average score of the papers and quizzes as well as participation in class discussions.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	English
Course Based on Practical Work Experience(実務経験を活かした授業)	Not applicable

Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RMM5-012-79-2	2020spring	Graduate School of Medical Sciences(10150)	1, 2	1	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Basic Radiology(B8)	OKADA Seiji, SHIMASAKI Tatsuya, KOJIMA Akihiro

Goals with their ratio(学修成果とその割合)
Under　construction ・・・・100%

Type of Class(授業の形態)	Other
Teaching Method(授業の方法)	Lecture and practical training
Course Goals(授業の目的)	To learn the basic knowledge, and handling and the application of radiation and radioisotope (RI) for medical sciences.
Course Achievement Targets(到達目標)	(1) To receive the certificate of “education and training for radiation workers” to use radiation or radioisotopes safely in the master course research (2) To understand the usefulness and reasonableness of radiation or radioisotopes, and measure radiation dose or radioactivity effectively in the life science experiment (3) To understand basic protocols for typical radioisotopes and perform some basic experiments using real radioisotopes
Course Outline(授業の概要)	Radiation and radioisotopes are very useful tools in the study of science. Also they significantly contribute to our daily life, especially clinical medicine. Excessive exposure of radiation, however, causes the harmful effect on the human body. This lecture series focus on the application of radiation and radioisotope (RI) for life or medical science after training safe handling of radiation and radioisotope to prevent radiation hazards.

Details for Individual Classes(各回の授業内容)

No.(回)	Date(月日)	Class Theme(授業テーマ)	Brief Outline of Class(内容概略)
1	04/22	3rd period Akihiro Kojima	Basics of Radioisotope (1)
2	04/22	4th period Akihiro Kojima	Basics of Radioisotope (2)
3	05/13	3rd period Akihiro Kojima	Basics of Radioisotope (3)
4	05/13	4th period Akihiro Kojima	Basics of Radioisotope (4)
5	06/04	1st period Seiji Okada	Application of RI for Biomedical Research
6	06/05	1st period Akihiro Kojima	Measurement of radioisotope
7	06/10	1st period Tatsuya Shimasaki	Biological effects of irradiation
8	06/11	1st period Tatsuya Shimasaki	Use of RI for biological research

Required Textbook(テキスト)	
Reading List(参考文献)	Basic Knowledge of Radiation and Radioisotopes 2019 (Scientific Basis, Safe Handling of Radioisotopes and Radiation Protection). Japan Radioisotope Association, 2019. 細胞工学別冊「ＲＩの逆襲」アイソトープを活用した簡単・安全バイオ実験. 監修：岡田誠治　秀潤社（2007年12月）：In Japanese
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on active class participation, paper summaries, and the final report. Grading will be based on the student's understanding of the course subject matter. The students' understanding will be evaluated on the basis of papers and quizzes related to the topics dealt with in class to be scored from 0 to 100. Final grades will be based on the average score of the papers and quizzes as well as participation in class discussions.
Language Used in Instruction(使用言語)	Japanese
Textbook/Material Language(教科書・資料の言語)	Japanese
Course Based on Practical Work Experience(実務経験を活かした授業)	Applicable (・Teachers hold the national licence of senior ［first class］ radiation protection supervisor will lecture how to use radiation and radioisotopes for biomedical science. ・Practical training of radioisotopes are included.)

Elective subject : C1 Medical Experimental Course (1 credit)

Subject code : １０１７０

Academic Year 2020 Graduate School's Medical Experiment Course

Location : Lecture Room 2(Medical Education & Library Building 3F)

Date	AM			PM		
April 6 (Mon.)	1	8:45 ～ 10:15	Introduction to recombinant DNA technique (Molecular Genetics : Kazutoyo Terada)	3	13:15 ～ 14:45	Principle and application of polymerase chain reaction (Medical Biochemistry : Sato Yoshifumi)
	2	10:30 ～ 12:00	Gene Trasfer Technique (Molecular Physiology : Takeshi Chujo)			
April 7 (Tue.)	4	8:45 ～ 10:15	Cell imaging and quantitative analysis (Chromosome Biology: Keiichiro Ishiguro)	6	13:15 ～ 14:45	Protein Purification (General Methods) (Molecular Cell Biology : Kunitoshi Yamanaka)
	5	10:30 ～ 12:00	Basic science and clinical research for molecular imaging (Pathology and Experimental Medicine: Koki Hasegawa)	7	15:00 ～ 16:30	Analysis of Posttranslational Modification of Proteins (Cell Signaling and Metabolic Medicine : Takayoshi Yamauchi)
April 8 (Wed.)	8	8:45 ～ 10:15	Methods in cell biology (Cancer Biology: Tomoya Yamaguchi)	10	13:15 ～ 14:45	Analytical methods for intracellular signaling (Infection and Hematopoiesis : Shinya Suzu)
	9	10:30 ～ 12:00	Reproductive Engineering Techniques (Reproductive Engineering: Toru Takeo)	11	15:00 ～ 16:30	Immunohistochemistry (Cell Pathology : Yoshihiro Komohara)
April 10 (Fri.)	12	8:45 ～ 10:15	Pharmacokinetics (Clinical Pharmaceutical Sciences : Hideyuki Saito)	14	13:15 ～ 14:45	Production of polyclonal and monoclonal antibodies (Immunology : Hirotake Awai)
	13	10:30 ～ 12:00	Basic Methods in Immunology (Immunology : Atsushi Irie)	15	15:00 ～ 16:30	Proteomics (Tumor Genetics and Biology : Norie Araki)
April 13 (Mon.)	16	8:45 ～ 10:15	Experimental animals and animal Experimentations I (Division of Microbiology and Genetics: Daisuke Torigoe)	18	13:15 ～ 14:45	Experiment study and safety control (Environmental Safety Center: Yoshihiro Yamaguchi)
	17	10:30 ～ 12:00	Experimental animals and animal Experimentations II (Division of Microbiology and Genetics: Daisuke Torigoe)	19	15:00 ～ 16:30	In situ hybridization (Molecular Pharmacology : Koji Kikuchi)
April 14 (Tue.)	20	8:45 ～ 10:15	Practice and Guidance for Biological Laboratory Safety (Medical Virology: Yosuke Maeda)	22	13:15 ～ 14:45	Guidance for Living Modified Organism (LMO) (Division of Genomics : Masatake Araki)
	21	10:30 ～ 12:00	Introduction to flowcytometry (Immunology : Atsushi Irie)	23	15:00 ～ 16:30	Methods for Literature Search (Lecture Room: The 3rd floor of General Medical Research Building) (Anatomy : Takaichi Fukuda)
April 17 (Fri.)	24	15:00 ～ 16:30	Research Integrity (Bioethics : Yasuhiro Kadooka)			

※The lectures will be given in Japanese.

Elective subject：C2 Medical & Life Science Seminar (1 credit) Subject code 10180
(Medical and Life Science Seminar, Learning from Experience Doctors Seminar)

Academic Year 2020, D1 Medical & Life Science Seminar

Place: Lecture room 2, Medical Education & Library Building 3F. Time & Date: From 17:30 (Usually on Wednesday)

№	Schedule	Talker	Title	Affiliation	Inviter
1	May 20 (WED)	SASANO Hironobu	Endometrial and breast carcinoma: similarity and difference in pathogenesis of two most common estrogen dependent cancers	Professor, Department of Pathology, Tohoku University School of Medicine Director, Department of Pathology, Tohoku University Hospital	Obstetrics and Gynecology
2	May 27 (WED)	NOMURA Seitaro	Single-cell analysis in biology and medicine	Research Assistant Professor, Department of Cardiovascular Medicine, Graduate School of Medicine, The University of Tokyo	Molecular Genetics
3	Jun 3 (WED)	FUJIMOTO Akihiro	Genome analyses of cancer cells	Professor, Department of Human Genetics, Graduate School of Medicine, The University of Tokyo	Hematology,Rheumatology and Infectious Disease
4	Jun 10 (WED)	UCHIYAMA Yasuo	Three dimensional structures of intracellular membrane organelles.	Research Professor, Department of Cellular and Molecular Neuropathology, Juntendo University Graduate School of Medicine	Histology
5	Jul 1 (WED)	YAMANAKA Soichiro	Chromatin dynamics in mammalian germ cell	Associate Professor, Department of Biological Sciences, Graduate School of Science, The University of Tokyo	Chromosome Biology
6	Jul 8 (WED)	SAYA Hideyuki	Novel strategies targeting therapeutic resistant cancer cells	Professor, Division of Gene Regulation, Institute for Advanced Medical Research, School of Medicine, Keio University	Tumor Genetics and Biology
7	Sep 9 (WED)	KATO Takashi	The challenge toward comparative hematology afterward the discovery research of hematopoietic growth factors	Professor, Graduate School of Advanced Science and Engineering, and Department of Biology, School of Education,,Waseda University	Hematopoiesis
8	Oct 7 (WED)	KAGEYAMA Ryoichiro	Neurogenesis	Professor, Laboratory of Growth Regulation System, Institute for Frontier Life and Medical Sciences, Kyoto University	Hematology,Rheumatology and Infectious Disease
9	Oct 14 (WED)	ATARASHI Koji	The role of gut microbiota in immune homeostasis	Associate Professor, Keio University School of Medicine	Cardiovascular Medicine
10	Nov 18 (WED)	ARITA Makoto	The importance of Lipid Quality (LipoQuality) in health and disease	Professor, Division of Physiological Chemistry and Metabolism, Graduate School of Pharmaceutical Sciences, Keio University Laboratory for Metabolomics, RIKEN Center for Integrative Medical Sciences	Microbiology
11	Nov 25 (WED)	WAKE Hiroaki	Visualization of brain immune cell to reveal their physiological functions	Professor, Nagoya University Graduate School of Medicine/ Professor	Sensory and Cognitive Physiology
12	Dec 18 (FRI)	MIZUSHIMA Noboru	Mechanisms of autophagy and its related systems	Professor, Graduate School of Medicine, The University of Tokyo	Cell Modulation
13	Feb 10 (WED)	HARA Eiji	Roles and mechanisms of cellular senescence in aging and cancer	Professor, Department of Molecular Microbiology, Research Institute for Microbial Diseases, Osaka University	Stem Cell Stress

Note: The date, time or place of these lectures may change due to the inviter's and lecturer's schedules. Please check the details with the seminar guide leaflet distributed to each Department beforehand. Also please check our website for the latest information.
We might add the seminar other than the above. (http://www.medphas.kumamoto-u.ac.jp/medgrad/gakunai/seminar/)

C2 (continue)

Academic Year 2020, D2 Learning from Experienced Doctors Seminar

Place: Lecture room 2, Medical Education & Library Building 3F. Time & Date: From 17:30 (Usually on Wednesday)

№	Schedule	Talker	Title	Affiliation	Inviter
1	May 20 (WED)	OKUNO Hiroyuki	Activity-dependent gene expression and cognitive function	Professor, Lab of Biochemistry and Molecular biology, Graduate School of Medical and Dental Sciences, Kagoshima University	Neuropsychiatry
2	Jun 17 (WED)	MORIMOTO Akira	Langerhans cell histiocytosis; new understanding as an Inflammatory myeloid neoplasia	Professor, Jichi Medical University School of Medicine	Hematopoiesis
3	Jun 24 (WED)	SUMIKURA Hiroyuki	Obstetric Anesthesia	Professor, Department of Anesthesiology, Juntendo University Hospital	Anesthesiology
4	Sep 2 (WED)	KANG Dongchon	mitochondria in diseases: TFAM and p32	Professor, Department of Clinical Chemistry and Laboratory Medicine, Kyushu University Graduate School of Medical Sciences	Molecular Laboratory Medicine
5	Sep 9 (WED)	BABA Tsukasa	Change and Challenge of gynecologic oncology: Mickle fails that fools think	Professor, Department of Obstetrics and Gynecology Iwate Medical University School of Medicine	Obstetrics and Gynecology
6	Sep 16 (WED)	HIROI Yoshinori	Population-declining Society and the Future of Healthcare	Professor, Kokoro Research Center, Kyoto University	Hematology,Rheumatology and Infectious Disease
7	Sep 23 (WED)	KOMURA Yutaka	Neural Network for Consciousness	Professor, Systems Neuroscience, Kyoto University	Neurosurgery
8	Sep 30 (WED)	OHASHI Toya	Current status of gene therapy for genetic diseases	Professor, Division of Gene Therapy, Research Center for Medical Sciences The Jikei University School of Medicine	Cell Modulation
9	Oct 7 (WED)	SUHARA Tetsuya	Molecular Imaging of Neuropsychiatric disorders	Professor, National Institutes for Quantum and Radiological Science and Technology Institute for Quantum Life Science	Neuropsychiatry
10	Nov 11 (WED)	FUJIWARA Hiroshi	Embryo implantation and placentation - a new departure using embryonic signals -	Professor, Department of Obstetrics and Gynecology, Graduate School of Medicine Science, Kanazawa University	Histology
11	Jan 13 (WED)	ABURATANI Hiroyuki	A journey from Genome research to Medicine	Professor, Genome Science Laboratory Research Center for Advanced Science and Technology The University of Tokyo	Molecular Brain Science
12	Feb 10 (WED)	HARA Tetsuya	Perioperative cardiovascular management	Professor, Department of Anesthesiology, Nagasaki University School of Medicine	Anesthesiology
13	Feb 18 (THU)	SANO Motoaki	A paradigm shift in the treatment of heart failure	Associate Professor, Department of Cardiology, Keio University School of Medicine	Molecular Genetics
14	Mar 3 (WED)	TODA Tatsushi	From "not correct" to "correct" Elucidation of neurological diseases and molecular therapy using genomic science	Professor, Department of Neurology Graduate School of Medicine The University of Tokyo	Molecular Brain Science
15	Mar 10 (WED)	YAMADA Yasuhiro	Dissecting cancer biology with iPS cell technology	Professor, Division of Stem Cell Pathology, Center for Experimental Medicine and Systems Biology, Institute of Medical Science, University of Tokyo	Molecular Biology of Aging and Longevity

***** Each seminar will be held in Japanese. *****

C2 (continue)

Academic Year 2020, D5 「International Biomedical Research Seminars」

●Place: Meeting Lounge, IRCMS 1F
●Time & Date: From 17:30 (Usually on Wednesday)

The "D5 Medical & Life Science Seminar" course will be offered by International Research Center for Medical Sciences (IRCMS). It will run from April 2020 to March 2021, with lectures given by scientists who are affiliated with IRCMS or in collaboration with researchers at IRCMS. The lectures will be given once a month, in English, and by leading scientists in the relevant research field. Students will be taught: 1) how normal physiological functions are maintained in the human body; 2) how these systems become abnormal under certain pathophysiologic conditions; 3) why stem cells are important in animal development and homeostasis; 4) how stem cell-based approaches can help us understand disease mechanisms and find potential cure for diseases related to stem cell malfunction (e.g., cancer, aging).

No	Schedule	Lecturer	The title for the lecture	Title / Affiliation
1.	April 22	Aiko Sada	Elucidating the dynamics of epithelial stem cells in tissue regeneration and aging	Associate Professor, IRCMS
2.	May 26 (Tue)	Jae Myoung Suh	Mechanisms of adipocyte dedifferentiation and tissue homeostasis	Assistant Professor, Graduate School of Medical Science and Engineering, KAIST, Korea
3.	June 4	Masahiro Fukuda	Seeing is believing: visualization of brain function *in vivo*	Research Fellow, Duke－NUS, Singapore (Visiting Assistant Prof., IRCMS)
4.	July 8	Koichi Takahashi	Precision clonal mapping in acute myeloid leukemia with single-cell genomics	Assistant Professor, MD Anderson Cancer Center, University of Texas, USA (Visiting Assistant Prof., IRCMS)
	August			
5	September 16	Masanori Nakayama	Lead discovery, to bridge the gap between basic science and clinical application	Group Leader, Max-Planck-Institute for Heart and Lung Research (Visiting Associate Prof., IRCMS)
6	October 7	Kenichi Miharada	Regulation of proteostasis in hematopoiesis and fetal development	Assistant Professor, Lund University (Visiting Associate Prof., IRCMS)
7	November	Pilhan Kim	Real-time Intravital Microscopy for In Vivo Live Cell Imaging	Associate Professor, Graduate School of Medical Science and Engineering, KAIST, Korea (Visiting Associate Prof., IRCMS)
8	December 7 (Mon)	Pentao Liu	*Establishment, characterization and application of totipotent and pluripotent stem cells*	Professor, School of Biomedical Sciences, The University of Hong Kong, China
9	January	Nina Cabezas-Wallscheid	Regulation of dormant hematopoietic stem cells	Group Leader, Max Planck Institute of Immunobiology and Epigenetics, Germany. (Visiting Associate Prof., IRCMS)
10	February	*TBA*		
11	March	*TBA*		

Note: The schedule or venue of these lectures might change due to various reasons. Please check the details with the seminar guide leaflet distributed to each Department beforehand. Also, please check our website for the latest information. We might add the other seminar than the above.
(http://www.medphas.kumamoto-u.ac.jp/medgrad/gakunai/seminar/seminar3/)

A report format of “D5: 「International Biomedical Research Seminar Series」”

Write 2 essays based on 2 talks chosen from the seminar “D5: International Biomedical Research Seminars」Seminar”. Length of the essays should be 250-500 words. “D5 :“「International Biomedical Research Seminars」 Seminar” requires students to attend more than 15 lectures for credit before completion of their thesis research. Send each essay to the IRCMS within one month by E-mail (ircms@jimu.kumamoto-u.ac.jp, not by hard copy or any other digital media). The file of the essay should be included in the E-mail both in an attached file and in the text. A carbon copy E-mail should be also sent to Medical Faculty Educational Affairs Planning Section (iyg-igaku-3@jimu.kumamoto-u.ac.jp). Attendance will be taken in every talk by signing your name at the entrance of the lecture room.

Graduate schools of medicine, Medical Course , (Doctor) D5“「International Biomedical Research Seminars」” Report

Student：Grade	Registered number	Division	Name
Title of talk:			
Talker:			
Date:			
Place:			
A body of essay: Fill this A4 sheet with 250-500 words			

Compulsory subjects
(16 credits)
A6～A7

Please refer to the URL below for further details of “Exercises in Medical Sciences（Ａ６）” and “Study in Medical Sciences（Ａ７）”.

http://www.medphas.kumamoto-u.ac.jp/en/medgrad/gakunai/rishu/

The Graduate School of Medical Sciences
Kumamoto University

Student Handbook

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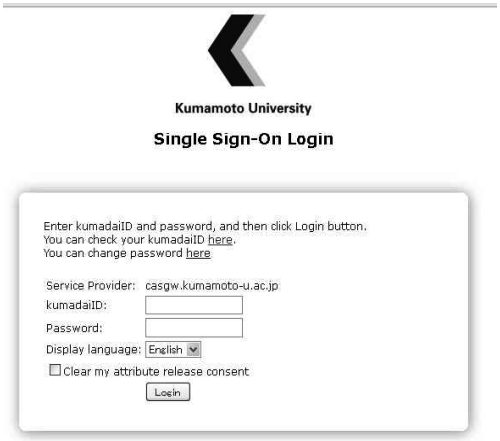
I. How to access Kumamoto University's Portal

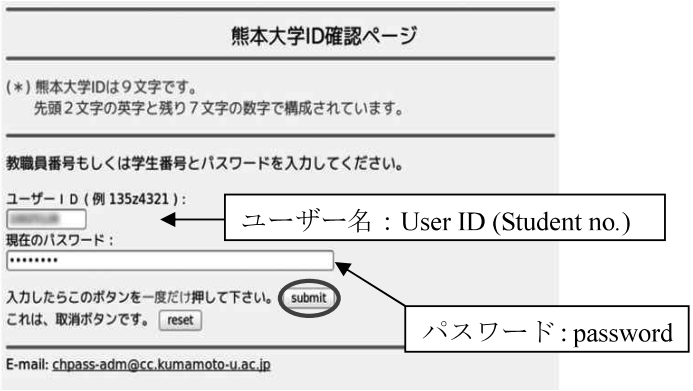
Students can use each systems such as SOSEKI (registration system), e-learning system (Moodle), system of automatic certificate issuing and others by accessing Kumamoto University's Portal website.

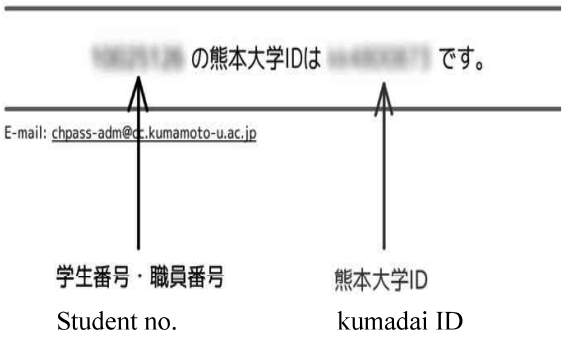
【How to access Kumamoto University's Portal】

① Access Kumamoto University's Portal website (http://uportal.kumamoto-u.ac.jp/), and log on to Kumamoto University Portal's Site by entering your Kumadai ID and password. Your Student number and password are written on the back of your Student ID.

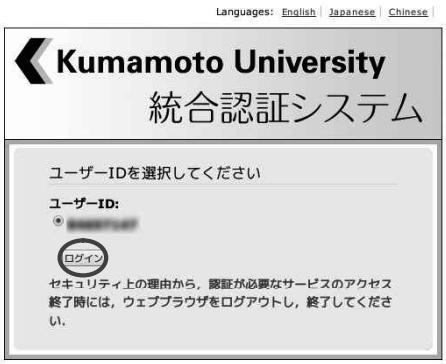


② You can check your "kumadai ID" entering your Student number and password, and then click the "submit".





③ Check student number , and then click the "LOGIN". Your Student number is written on the back of your Student ID.



④ After you log on to the portal site, please click any item which you'd like to access.

When you browse SOSEKI, please use the personal computer which is connected to Kumamoto University's LAN. (Accessing SOSEKI is available only on campus)

*If you want to check your credits off campus, you can confirm it by 'Automatic certificate issuing system'.

II. How to participate in lectures through e-learning

1. Classification of e-learning

Please note that the lectures by e-learning are classified into 6 types: eE-O, eE-L, eJ-O, eJ-L, eEJ-O and eEJ-L. These marks are written in the pages of the lecture schedule of each subject.

1) Classified according to the language used in the lecture.
eE: e-learning content in English
eJ: e-learning content in Japanese
eEJ: e-learning content in both Japanese and English

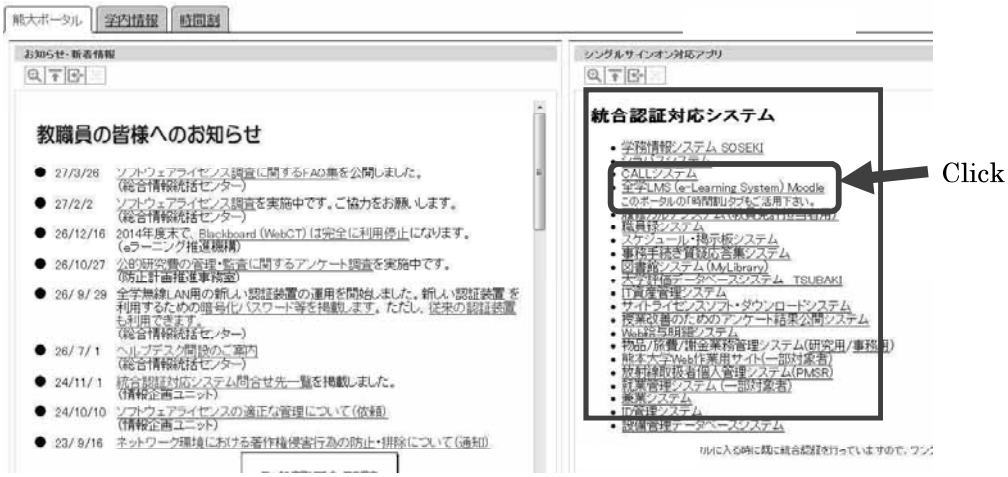
2) Classification according to the use of e-learning for the lecture.
-O: Lecture only by e-learning; no face-to-face class will be conducted.
-L: In principle, a face-to-face lecture; if unable to attend the lecture, a student may participate in the lecture through e-learning as supplementary lecture.
No e-learning marks: Lectures will be held only by face to face.

3) Regarding a lecture with e-learning content prepared only in Japanese (eJ-O or eJ-L), if an international student, who connot understand Japanese, has registered for such lecture, the face-to-face lecture will be conducted in English (+ Japanese). This lecture may be recorded to be used for an e-learning content as eE or eEJ in future.

* Example of e-learning classification:
eJ-L means "students are requested to attend the face-to-face lecture in principle, but if unable to do so, they can participate in the e-learning lecture prepared in Japanese language as supplementary lecture". If an international student, who connot understand Japanese, has registered for the course, a face-to-face lecture will be conducted in English (+ Japanese).

2) How to access the e-learning system（Moodle）

① Access Kumamoto University's Portal website (http://uportal.kumamoto-u.ac.jp/), and log on to Kumamoto University Portal's Site.
(Please check the previous page "1. How to access Kumamoto University's Portal".)

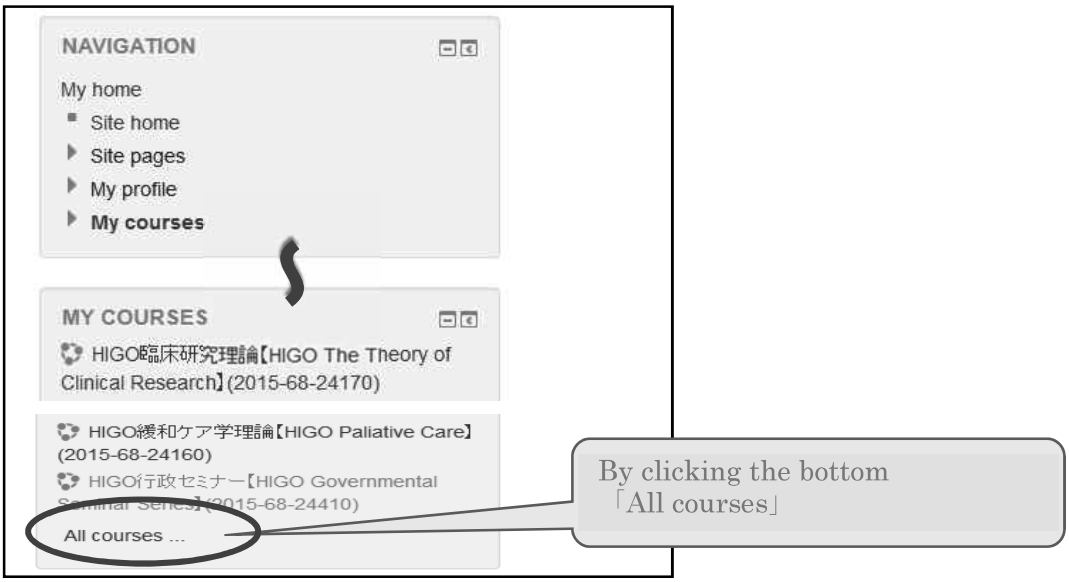


② If you successfully log in the system, please click the "全学 LMS(e-Learning System)Moodle".

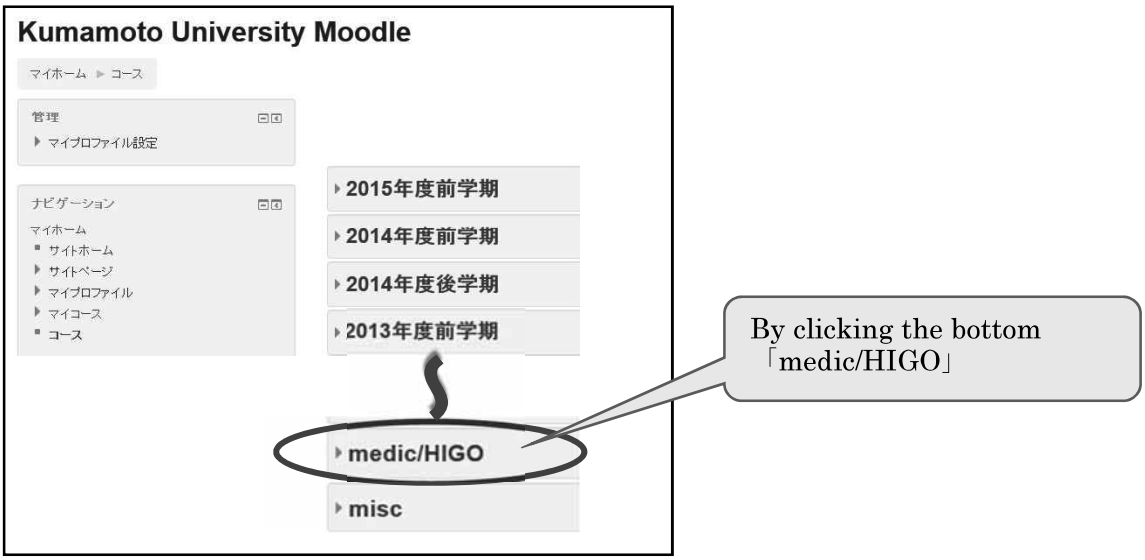
③ 「My home」,「course overview」 shows the list of courses you have registered for through SOSEKI. By clicking the course name, you may access to the top page, which displays the list of lectures held in

the course.

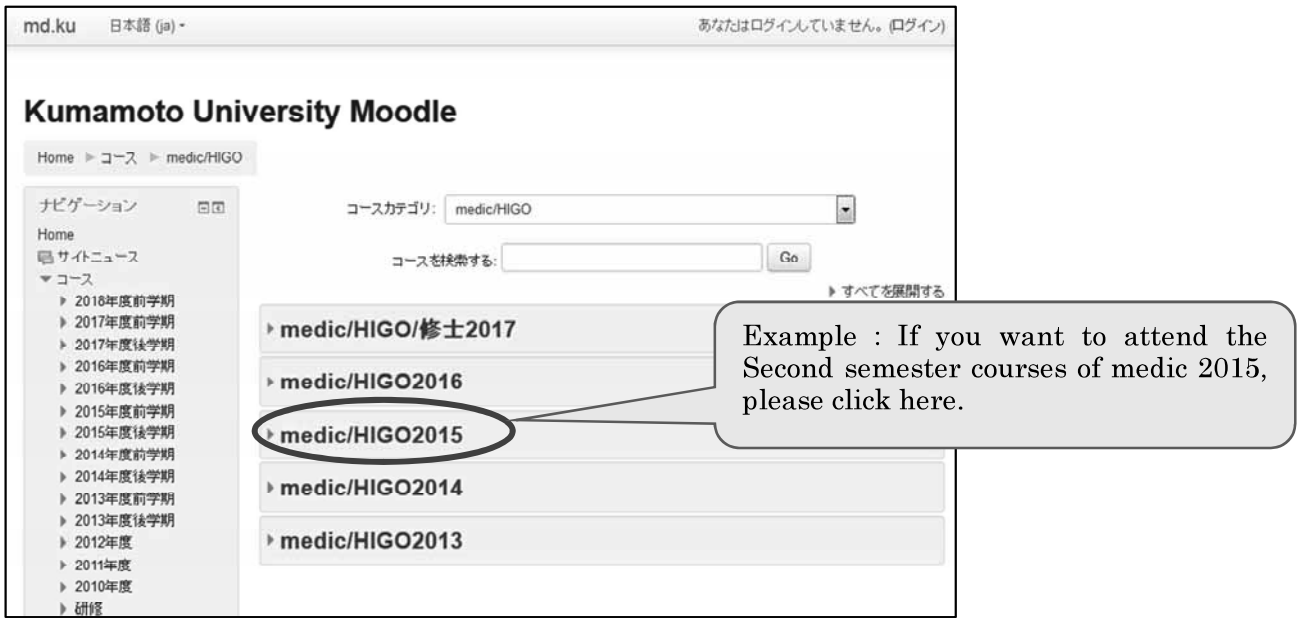
④ By clicking the bottom left「All courses」

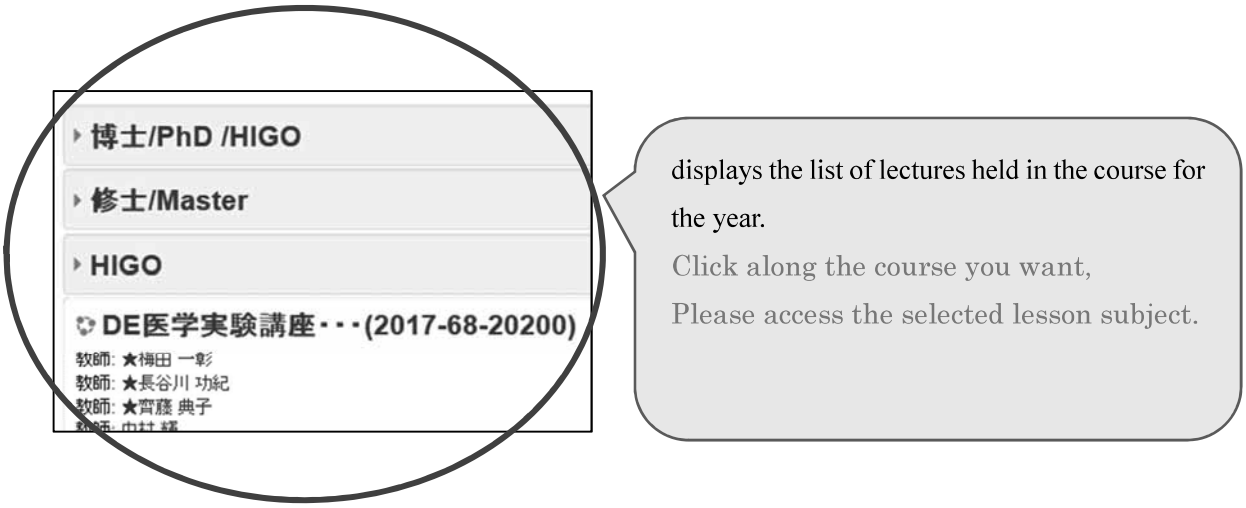


⑤ By clicking the bottom「medic/HIGO」

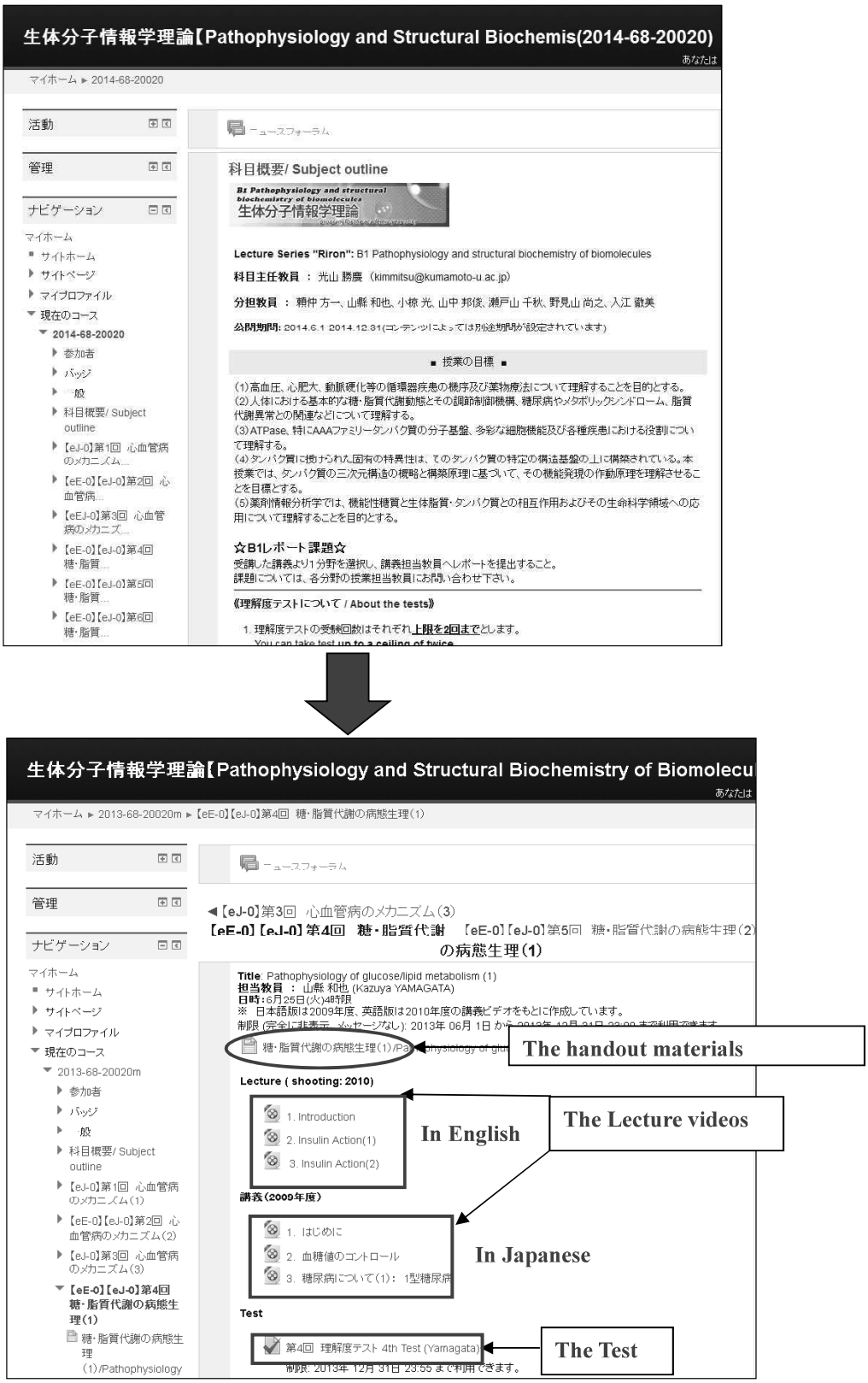


⑥ displays the list of lectures held in the course.





⑦ From each lecture page, you are able to learn the contents through the lecture videos and handout materials; and then, take tests to determine your understanding. If you pass the tests, your lecture participation would be completed. If you are failed, you may confirm and study again the part of insufficient understanding, and be able to take test only one more time.



※Notice) Regarding the students who would like to take "D1 Medicine and Life science Seminar" and "D2 Learning from Experienced Doctors" by using the e-learning system, please check the procedure for taking these subjects in the e-learning contents of "D1 Medicine and Life science Seminar" and "D2 Learning from Experienced Doctors".

III. Other Points to Consider

Following is the helpful tips for the wealthy student life. Please refer to it for your information.

For inquiry, please contact : Student Affairs Section, Graduate School of Medical Sciences, Kumamoto University

TEL : 096-373-5029	E-mail : iyg-igaku-3@jimu.kumamoto-u.ac.jp

Important information will be mainly informed by e-mail. Please be sure to send your e-mail address to Student Affairs Section by e-mail with your name and student number. If you change your e-mail address, please let us know your new e-mail address as soon as possible.

1. Tuition Fees

1) The deadline of Payment of Tuition Fees

Tuition Fees are as follows.

Spring semester : ¥ 267,900

Fall semester : ¥ 267,900

Deadlines for paying tuition fees are April 30 for the spring semester and October 31 for the fall semester.

2) Tuition Exemption

The Economic Support Office, Student Life Division accepts applications for tuition exemptions. Special information, such as the application period, etc. will be posted on the bulletin boards. Please be sure to check with the Economic Support Office, for exact dates.

2. Scholarships

Privately-funded students are eligible to apply for the scholarships, such as Gakushu Shoreihi. Special information, such as the application period, etc. will be posted on the bulletin boards.

3. Leave of Absence, Permission to Resume Studies, Withdrawal

1) Leave of Absence

Students can ask for leave of absence up to two years for illness and financial reasons. If you wish to apply, please consult with your supervisor first. You are required to submit the documents at least one month before from the commencement date. If you take a leave of absence due to illness, please submit a medical certificate.

2) Permission to Resume Studies

You have to submit the documents at least one month earlier to the desired date to Resume Studies.

If you have been took a leave of absence due to illness, please submit a medical certificate stating that you can resume studies.

3) Withdrawal

If you wish to apply, please consult with your supervisor first. You have to submit the documents at least one month before from the desired date of withdrawal. If you wish to withdraw from us due to illness, please submit a medical certificate.

4. Change of one's family name

If you change your family name, please submit the form to Student Affairs Section.

5. Application for change of department

If you wish to apply for change of department, please consult with your supervisor first. And please apply it as soon as possible.

6. Notification of Overseas Travel

Students need to submit the form to Student Affairs Section at least one month before from the departure of all travel abroad, including private trip, conferences, internships and so on.

7. Learning support

Consultation on learning and student life is provided by the supervisor. Students can talk with health care center about mental and physical health.

Health Care Center : 096-342-2164 (Kurokami)
: 096-373-5004 (Honjyo)

8. Health care

Students have to have the Student Regular Health Checkup in Kumamoto University every April.

9. The personal accident insurance and the liability insurance

We recommend you to join in an insurance to prepare for an injury during an educational and research activity. Please refer to the leaflet which is distributed at the guidance.

10. Certificate of attendance, Academic transcript, Proof of commuting by public transport, Discount ticket for JR

1) Certificate of attendance, Academic transcript

Students can issue the certificate from the system of automatic certificate issuing. Please access the system of automatic certificate issuing from the Kumamoto University portal.

2) Proof of commuting by public transport

Please apply for a certificate required for purchasing a school commuter pass to Student Affairs Section.

3) Discount ticket for JR

Students can issue the Discount ticket for JR from the system of automatic certificate issuing.

IV. Miscellaneous (Other Procedures)

Please refer to following contents about each procedures.

Categories	Contents	Method/PIC
The deadline of Payment of Tuition Fees	Spring semester Last day of April Fall semester Last day of October (If the last day falls on Saturday, Sunday or national holiday, the deadline shall be the previous weekday)	Payment in cash, or Automatic bank transfer
Application of Tuition Fee exemption	Application period of Spring semester and Fall semester is different. The submission period will be announced by bulltin board.	Economic Support Office Academic
Application for Leave of Absence, Request for Withdrawal, Request for Permission to Resume Studies	Students have to submit all required documents at least one month before the desired date to Leave of Absence (withdraw, to resume studies).	Student Affairs Office
Application for change of department	In case of any changes, student have to promptly submit the required document.	
Notification of Overseas Travel	Student have to submit the form to Student Affairs Office at least 1 month before the departure of the travel.	
Change of address, name, or guarantor	In case of any changes in residential address etc…, student have to inform to Student Affairs Office	
Student Card	If you lost it, you need to apply to reissue through the Kumamoto University Portal.	
Certificate of Student Registration, Academic Transcript, Discount ticket for JR	After booking through Kumamoto University Portal, student can issue these certificates at student affairs office.	
Proof of commuting by public transport	Student have to apply for a certificate required for purchasing a school commuter pass to Student Affairs Section.	
Issuance of Vehicle Entry Pass	Student have to apply using the prescribed form in case of commuting by vehicle.	
Request for admittance to the building during off-hours registration	Student who wish to access to the General Medical Research Building and Basic Research building during night and/or weekends, they have to apply using the prescribed form.	
To use University Library	Student Card is necessary to access university library. Student have to return all books you borrowed at the library before leaving of absence, going abroad, or graduation.	University Library

＜Office Hour＞

8：30 a.m. ～ 5：15 p.m. (Only weekday)

*Office will be closed during summer holidays(mid Aug) and winter holidays (end Dec to beginning Jan)

9 Clinical Medicine Research Building

Floor	A	B	C	D
13F	Radiation Oncology	Neuropsychiatry	Diagnostic Medicine	Diagnostic Radiology
12F				
11F	Metabolic Medicine	Ophthalmology	Nurology	Nephrology
10F	Pediatric Surgery and Transplantation		Pediatrics	Obstetrics and Gynecology
9F				
8F	Urology	Oral and Maxillofacial Surgery	Dermatology and Plastic Surgery	Otolaryngology-Head and Neck Surgery
7F				
6F	Gastroentrology and Hepatology	Respiratory Medicine		Hematology and Rheumatology and Infectious Diseases
5F				
4F	Cardiovascular Medicine	Neurosurgery	Cardiovascular Surgery	Anesthesiology
3F	Thoracic Surgery	Orthopaedic	Gastroenterological Surgery	Breast and Endocrine Surgery
2F				
1F				

10 Medical Education & Library Building

3F	Student affairs section, Lecture room 1, Lecture room 2 (Basics Lecture Room)
1･2F	University Library

12 Basic Rsearch Building

Floor	West	East
12F		
11F	Cell Signaling and Metabolic Medicine	Bioethics
10F	Molecular Genetics	Immunology
9F	Microbiology	Microbiology
8F	Pharmacology and Molecular Therapeutics	Molecular Pharmacology
7F	Midical Biochemistry	Molecular Brain Science
6F	Sensory and Cognitive Physiology	Molecular Physiology
5F	Public Health	Cancer Biology
4F	Tumor Genetics and Biology	Forensic Medicine
3F	Cell Pathology	Pathology and Experimental Medicine
2F	Histology	Anatomy
1F		