For students admitted in 2022 and before The Graduate School of Medical Sciences Kumamoto University (Doctoral Course)

AY2025 Syllabus

Compulsory subjects and Elective subjects · · · · Page 3 ~ Page 49

- A1 Medical Informatics and Medical Ethics
- B1 Pathophysiology and structural biochemistry of biomolecules
- B2 Cell Biology
- B3 Hematopoietic and Immune System
- B4 Infection and Immune Control
- B5 Human brain functional science
- B6 Neuroscience
- B7 Developmental and Regenerative Medicine
- B8 Environmental and Sociomedical Sciences
- C1 Current Theory of Medical Diagnosis
- C2 Advanced therapeutics
- C3 Metabolic and Circulatory Regulations
- C4 Reproductive and Developmental Medicine
- C5 Advances in Oncologic Medicine
- C6 The Forefront of Clinical Oncology
- C7 Restorative Medicine
- C8 Cancer therapeutics
- C10 The Theory of Clinical Research
- C11 Training of biostatistics in clinical study
- C12 Overview of clilnical study
- D1 Medical and Life science Seminar
- D2 Learning from Experienced Doctors Seminar
- D3 Medicine and Life Science Training
- D5 International Biomedical Research Seminars

Practice (Jissen) I, II · Practice (Jissen) III Timetable Code List

••••••Page 50

Course Work subject · · · · · · · · · · · · · · · · · Page 51	~	Page 52
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Medical Experiment Course

Developmental Biology and Regenerative Medicine · · · Page 53 ~ Page 65

E1 Special Lecture "Tokuron" on Developmental Biology and Regenerative Medicine I

- E2 Special Lecture "Tokuron" on Developmental Biology and Regenerative Medicine II
- E3 Special Lecture "Tokuron" on Transplantation immunology
- E4 Special Lecture "Tokuron" on Bioethics

Practice "Enshuu" on Developmental Biology and Regenerative Medicine I

Practice "Enshuu" on Developmental Biology and Regenerative Medicine II

Practice "Enshuu" on Developmental Biology and Regenerative Medicine III

Practical Training "Jisshuu" on Developmental Biology and Regenerative Medicine

Educational Program for Advanced Research in Infectious Diseases

ai	nd AI	DS	•••	•	•	•	••	•	Page	66	~	Page	79
	F1 Special Lecture I on Infectious Diseases and AIDS												
	F2	Special Lecture II on Infectious Diseases and AI	DS										
	Trainir	ng I on Infectious Diseases and AIDS											
	Trainir	ng II on Infectious Diseases and AIDS											
	Practic	e I on Infectious Diseases and AIDS											
	Practic	e II on Infectious Diseases and AIDS											
	Practic	ee III on Infectious Diseases and AIDS											
	Practic	ee IV on Infectious Diseases and AIDS											
	Research on Infectious Diseases and AIDS												
	Specia	l Research I on Infectious Diseases and AIDS											
	Specia	l Research II on Infectious Diseases and AIDS											

Endocrinology and Metabolism Course	•	•	•	•	•	•	• Page 80	~	Page 81
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Practical Training of Metabolic Medicine

Educational Program for extension of healty life expectacy

- G1 Special Lecture I on CMHA · · · · · · Page 82 ~ Page 102
- G2 Special Lecture II on CMHA
- Special Lecture on Bioethics

Special Practice

Practice I on CMHA

- Practice II on CMHA
- Practice III on CMHA

Compulsory subjects and Elective subjects

A1

B1~B8 • C1~C12 D1~D3 • D5 Practice (Jissen) I, II , III Timetable Code List

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Ye	Eligible Student ear(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7	-000-81-2	2025	whole year	Graduate School of Medical Sciences (20010)		1, 2, 3, 4	2	others	
		Co	ourse Title(Th	eme)(科目名(講義題目))			Instructor(s)(担当教員)	
Medic	al Informatio	cs and M Me	edical Ethics dical Informa	(For students admitted in 2022 and before tics and Medical Ethics)	e)(A1	KADOOKA	Yasuhiro, KAS Taishi, USU	AOKA Shunji, NAKAMURA KU Koichiro	
				Goals with their ratio(学修成果と ⁻	その割	合)			
1.Advan and abi	nced expert k lity to take ir	knowledg nitiative a	ge, skill and r action ••••25	esearch capability ·····25% 2.Profound int % 4.Social leadership drive ····25%	er-dis	sciplinary know	wledge ····259	% 3.Global perspective	
Туре о	of Class(授業)	の形態)	Lecture and	l Seminar					
Teachir	ng Method(挑 法)	受業の方	The course	is provided by lecture and discussion or e-	Learn	ning using the	moodle or CIT	I Japan.	
Course	e Goals(授業)	の目的)	Medical Info arose from r health recor countries, e informed co knowledge	ormatics and Medical Ethics aims at proper medical practice. In this course, you learn b rds, protection of computer-processed per valuation of medical care and DPC, proble onsent, principle of ethics. This course serv on medical informatics and medical ethics,	man basic sonal ms of es as and	agement of he concepts used data, health of f abortion, eut introductory f emergency m	ealth information d in this filed, in care system in J hanasia and de for all students edicine.	on and ethical problems ncluding electronic Japan and other eath with dignity, as you obtain essential	
Course	Learning go 目標)	als(学修	[A level (A) To be able t [C level (C	水準)】 co handle or manage health information ar 水準)】	ıd eth	nical problems	arose from me	edical practice.	
Course Outline(授業の概要)In order to explain basic principles of medical informatics and medical ethics, it is discussed how the proble are managed. Basic concepts are introduced. More specifically, you are expected to understand the followin (1) electronic health records; (2) protection of computer-processed personal data; (3) information literacy; (ethical issues at the beginning of life; (5) ethical issues at the end of life; (6) informed consent, privacy and principle of ethics, (7) research, high technology medicine and ELSIs, (8) emergency medical service system (9) disaster medicine. Participants are requested to learn medical ethics through e-learning system offered by the project of Collaborative Institutional Training Initiative (CITI) Japan, or submit a short comment on some lectures, whic be helpful to provide positive feed back to the next session.								ssed how the problems derstand the followings: nformation literacy; (4) onsent, privacy and dical service system and the project of some lectures, which will	
				Details for Individual Classes(各回の	D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			Yasuhiro Ka Class Orien	dooka 【eEJ-0】 tation and eAPRIN	 Introduction and orientation of this course Responsible Conduct of Research_RCR Research Misconduct_RCR Data Handling_RCR 				
2			eAPRIN 【e	EJ-0]	• F • (• <i>f</i>	arch_RCR			
3			eAPRIN 【e	EJ-0]	· \ - (- F	to the Public_RCR R			
4			eAPRIN 【e	EJ-0]	• N • N • F	Mentoring_RC Managing Pub Research Integ	R lic Research Fu grity and Resea	unds_RCR rch Security_RCR	
5			eAPRIN 【e	EJ-0]	Appropriate Use of AI in Research, etc Ethics of Medical and Health Research Human Subjects I Ethics of Medical and Health Research Human Subjects II			earch, etcRCR Research Involving Research Involving	
6			eAPRIN 【e	EJ-0]	• F • F • (Po	Review by an I Handling Pers Genomic and pulations_HSI	nstitutional Re onal Informatic Genetic Analys R	view Board (IRB)_HSR on in Research_HSR is Studies in Human	
7			eAPRIN 【e	EJ-0]	· (· · F Co	Group Harm A Informed Cons Research Subj onsiderations_	rising from Res sent in Researc ects Who Meri HSR	earch_HSR h_HSR t Special	
8			eAPRIN 【e	EJ-0]	Re:	· Records-Based Research_HSR · Social and Behavioral Research for Biomedical Researchers_HSR · International Studies_HSR			
9			eAPRIN 【e	EJ-0]	The Ethics of Pluripotent Stem Cell Research I The Ethics of Pluripotent Stem Cell Research II Medical and Health Research Involving Human Subjects_HSR			m Cell Research I_HSR m Cell Research II_HSR n Involving Human	
10			Taishi Naka	mura and Koichiro Usuku 【eJ-0】	He	alth care syste	em in Japan an	d in the world	
11			Taishi Naka	mura and Koichiro Usuku 【eEJ-0】	Fut res	ture prospects search and da	s of Electronic ta ware house	medical records, Clinical	
12			Shunji Kasa	oka [eE-0] [eJ-0]	Em Syr	nergency Med ndrome	ical Service Sys	stem, Post-Cardiac Arrest	
13			Shunji Kasa	oka [eE-0] [eJ-0]	Dis	saster Medicir	ne, Triage		

14	Yasuhiro Kadooka [eE-0] [eJ-0]	Step up Lecture for Research Ethics (1)				
15	Yasuhiro Kadooka [eE-0] [eJ-0]	Step up Lecture for Research Ethics (2)				
Estimated out-of-class study time	This subject requires 90 hours of study, and the class is equivalent to 60 hours is necessary to deepen the unde	s 30 hours. Therefore pre- and post-study on tasks erstanding of the class.				
Required Textbook(テキスト)	Textbooks are not specified, and handouts will be distri	Textbooks are not specified, and handouts will be distributed by the moodle system.				
Reading List(参考文献)	Provided in the lectures.					
Enrollment Conditions(履修 条件)	No prerequisite.					
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on active class participation, pap on the student's understanding of the course subject m the basis of papers and questions related to the topics grades will be based on the average score of the papers	er summaries, and the final report. Grading will be based atter. The students' understanding will be evaluated on dealt with in class to be scored from grade 1 to 5. Final s and quizzes as well as participation in class discussions.				
Language Used in Instruction(使用言語)	Japanese and English					
Textbook/Material Language(教科書・資料の言 語)						
Course Based on Practical Work Experience(実務経験 を活かした授業)	Applicable					

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	間,	Eligible Student Year(開講年次)	Weekday and Period(曜 日・時限)			
RDM7-	001-79-2	2025	whole year	Graduate School of Medical Sciences (20020)		1, 2, 3, 4	2	others		
		Co	ourse Title(Th				Instructor(s)(担当教員)		
Pa	thophysiolo	gy and S	itructural Bio b	chemis (For students admitted in 2022 ar efore)(B1)	nd	ARIMA Yu Kunitos	iichiro, YAMAG hi, BABA Masa	ATA Kazuya, YAMANAKA ya, MIHARADA Kenichi		
				Goals with their ratio(学修成果と	その	D割合)				
1.Advano and abili	ced expert k ity to take in	nowledg itiative a	ge, skill and r action ••••30	esearch capability ····30% 2.Profound in 0% 4.Social leadership drive ····10%	ter-o	disciplinary know	wledge ····30	% 3.Global perspective		
Type of	f Class(授業)	の形態)	Lecture							
Teachin	ig Method(扔 法)	受業の方	PowerPoint	will be used in the lectures, and active pa	artici	ipation in the dis	scussion is enc	ouraged.		
 (1)To understand the pathophysiology of hypertension, cardiac hypertrophy therapeutic strategy of these cardiovascular diseases. (2)To understand the basic knowledge of glucose/lipid metabolism and its of metabolic syndrome, and lipid metabolism disorder. (3) Molecular basis, various cellular functions, and roles of ATPases, especia diseases will be learnt. (4) To understand the mechanisms for protein quality control in cells and its (5) To understand the role of hypoxia signaling pathway, mTOR signaling pathieses 						ohy, and atherc ts dysregulation cially AAA fami its implication pathway and n	osclerosis, and the n in diabetes mellitus, ly proteins, in human is in diseases netabolite signaling in			
Course I	Learning go 目標)	als(学修	[A level (A To understa clinical app [C level (C To understa biomoleculo	水準)] and the detailed findings of the structure, lication of biomolecule, and to be able to :水準)] and the structure, function, physiological r e.	func app role,	tion, physiologic ly them to the st role in various c	cal role, role in cudy. liseases, and cl	various diseases, and linical application of		
Course (Outline(授業	の概要)	(1) You will learn funda are biopoly are related from the po family prote animals cau of functiona response. F of hypoxia s	learn the mechanism for the regulation of mental metabolic pathways under normal mers containing functional motifs and dor to life of proteins and consist of several di int of view of ATPases. In particular, comm eins will be discussed. In addition, human used by mutations in AAA family proteins w al proteins is maintained at the desired lew urthermore, you will learn how its disruptio signaling pathway, mTOR signaling pathwa	f oxic con main ffere non gene vill b vels, on is ay an	dative stress and iditions and its re- is. Molecular cha- ent types of ATP- molecular basis etic diseases and be described. (4 and molecular mo- implicated in va- nd metabolite sig	t its signaling c elationship to p aperones and A ases. Their fund and various ce d development) You will learn nechanisms of arious diseases gnaling in disea	ascades. (2) You will bathology. (3) Proteins ATP-dependent proteases ctions will be discussed ellular functions of AAA al disorders of model how quantity and quality unfolded protein (5)You will learn the role ases		
				Details for Individual Classes(各回	の授	業内容)				
No.(回)	Date(月	日)		Class Theme(授業テーマ)	ass Theme(授業テーマ) Brief Outline of Cla					
1			ARIMA Yuic	hiro [eEJ-0]	F	Pathophysiology	of cardiovascu	ular diseases (1)		
2			ARIMA Yuic	hiro [eEJ-0]	F	Pathophysiology	of cardiovascu	ular diseases (2)		
3			ARIMA Yuic	hiro [eJ-0]	F	Pathophysiology	of cardiovascu	ular diseases (3)		
4			YAMAGATA	Kazuya [eEJ-0]	F	Pathophysiology	of glucose/lip	id metabolism (1)		
5			YAMAGATA	Kazuya [eEJ-0]	F	Pathophysiology	of glucose/lip	id metabolism (2)		
6			YAMAGATA	Kazuya [eEJ-0]	F	Pathophysiology	of glucose/lip	id metabolism (3)		
7			YAMANAKA	Kunitoshi [eEJ-0]	1	ATPases related	to life of protei	ins		
8			YAMANAKA	Kunitoshi [eEJ-0]		Various function	s of AAA protei	ns		
9			YAMANAKA	Kunitoshi [eEJ-0]	┟	Human diseases	caused by AAA	Aproteins		
10			MIHARADA	Kenichi [eJ-0]		Growth factors a	nd receptors ir	n cancer		
11			MIHARADA	Kenichi (eJ-0)		Cell signaling in	cancer			
12			MIHARADA	Kenichi (eJ-0)		Molecular target	ed therapy in c	cancer		
13			BABA Masa	va [eJ-0]	┢	Hvpoxia signalin	g pathway and	disease		
14			BABA Masa	va [el-0]	- Ir	mTOR signaling	pathway and d	isease		
15			BARA Masa	va [el-0]		metabolite signa	ling and disease	2A		
Estim	ated out-of- study time	class	2, 2, 191030	,	'					
Require	ed Textbook ト)	(テキス	Textbooks a	are not specified, and handouts will be dis	tribu	uted in some cla	sses.			
Readi	ing List(参考	文献)	"Harper's I Companies "Handboo	lllustrated Biochemistry" by Robert K. Mu , 2006 k of Lipoprotein_Testing" by Nader Rifal	urray et al	v, Daryl K. Grann I., AACC Press, 2	er, Victor W. Ro 2000	odwell, The McGraw-Hill		
Enrollme	ent Conditic 条件)	ons(履修								
Assessment Methods and Criteria(評価方法・基準)			The studen select one a	ts' understanding will be evaluated compr area from all attended courses and submit	eher its r	nsively based on report to the Stu	the quality of dent Affairs Se	report. Students must ction.		

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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student Year(開講年次) Credits(単位 Weekday and Period(即 数) 日・時限)				
RDM7	-002-79-2	2025\	whole year	Graduate School of Medical Sciences (20030)	1	, 2, 3, 4	2	others		
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)		
			Cell	Biology(B2)		Kazuya lw Yusuke Yutaka N	amoto, Kazuhit Ono, Satoshi T Iakachi, Tomoa	to Tomizawa, Miki Bundo, Tateishi, Shinjirou Hino, iki Koga, Yuta Takahashi		
				Goals with their ratio(学修成果とそ	の割合	î)				
1.Advan and abil	nced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ••••5%	esearch capability ····75% 2.Profound inte %	r-disci	plinary kno	wledge ····20	% 3.Global perspective		
Туре о	of Class(授業)	の形態)	Lecture							
Teachir	ng Method(挑 法)	受業の方	E-learning l	ecture						
Course	e Goals(授業)	の目的)	The studen psychiatric	ts understand the various biological phenom disorders, molecular genetics, and stem cell	nena si s base	uch as deve d on cellula	lopment/reger ar functions.	neration, cancer, aging,		
Course	Learning go 目標)	als(学修	[A level (A The studen aging, psyc understand [C level (C The studen aging, psyc	水準)] ts can understand the various biological phe hiatric disorders, molecular genetics, and ste and discuss the latest topics. (水準)] ts can understand the various biological phe hiatric disorders, molecular genetics, and ste	enome em cel enome em cel	na includin Is at the mo na includin Is at the mo	g development lecular level. Ir g development lecular level.	/regeneration, cancer, addition, they can /regeneration, cancer,		
Course	Outline(授業	¢の概要)	The topics of genetics, ar on their spe	of this course include development/regener nd stem cells. The teachers give lectures on b ecialty.	ation, basic k	cancer, agir knowledge a	ng, psychiatric and current sta	disorders, molecular tus of each topic, based		
				Details for Individual Classes(各回の	授業内	容)				
No.(回)	Date(月	日)		Class Theme(授業テーマ)		ass(内容概略)				
1			Kazuhito To	omizawa 【eE-0, eJ-0】	Regulation in physiology and pathophysiology					
2			Kazuhito To	omizawa 【eE-0, eJ-0】	Regulation by protein phosphorylation					
3			Shinjiro Hin	o [eE-0, eJ-0]	Cross talk between metabolism and epigenome					
4			Yusuke Ond	o【eE-0, eJ-0】	Stem	ion/adaptation I				
5			Yusuke Ond	o [eE-0, eJ-0]	Stem	tion/adaptation II				
6			Yutaka Nak	achi【eE-0, eJ-0】	Oste					
7			Yutaka Nak	achi【eE-0, eJ-0】	Oste	oblasts and				
8			Miki Bundo	[eE-0, eJ-0]	Singl	e cell analy	ctions			
9			Yuta Takah	ashi 【eEJ-O】	Epige	enetic regul	ation in embry	onic development		
10			Tomoaki Ko	oga [eEJ-O]	Epige	enetics in h	ost biological d	lefense		
11			Kazuya lwa	moto【eE-0, eJ-0】	Neur	oepigenetic	cs I			
12			Kazuya lwa	moto【eE-0, eJ-0】	Neur	oepigenetic	cs II			
13			Satoshi Tat	eishi 【eEJ-0】	Cell	growth and	cell cycle			
14			Satoshi Tat	eishi 【eEJ-0】	Abou	ıt Mitosis ar	nd Meiosis			
15			Satoshi Tat	eishi 【eEJ-0】	DNA	repair and	recombination			
Estim	nated out-of- study time	class	This course consists of content that requires 90 hours of study. Since the class is 30 hours, 60 hours of pre- and post-study (including assignments) is necessary to understand the class.							
Require	ed Textbook ト)	(テキス	Not specified.							
Read	ling List(参考	文献)	Not specifie	ed.						
Enrollm	ent Conditio 条件)	ons(履修	Should have	e the basic knowledge of cell biology.						
Assess Criter	ment Metho ia(評価方法 ·	ds and - 基準)	Grading will be based on the understanding of the course subject matter. The 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.							
Lar Instr	nguage Usec ruction(使用	t in 言語)	Japanese ai	nd English						
Tex Languaş	ktbook/Mate ge(教科書・資 語)	erial 資料の言	Combinatio	n of Japanese and English						
Course Work E を	Based on P xperience(実 活かした授業	ractical ≋務経験 ≹)	Not applica	ble						

Course 目ナ	e Coding(科 - ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student Year(開講年次)				
RDM7	-003-79-2	2025	whole year	Graduate School of Medical Sciences (20040)	1	1, 2, 3, 4	2	others		
		Сс	ourse Title(Th				Instructor(s)(担当教員)		
н	ematopoieti	c and Im	mune Systen	ns(B3 Hematopoietic and Immune Systems)		OKADA SATO Yo OGAWA TAK	Seiji, OGUCHI rifumi, OSHIUN Minetaro, IRIE (IZAWA Hitoshi	Hiroto, SASHIDA Goro, 4I Hiroyuki, KOGA Saori, 5 Atsushi, SUZU Shinya, 5, NOMURA Takushi		
				Goals with their ratio(学修成果とそ	の割る	合)				
1.Advan and abi	nced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ••••20	esearch capability ·····35% 2.Profound inte 1% 4.Social leadership drive ····10%	er-disc	ciplinary know	wledge ····35	% 3.Global perspective		
Туре о	of Class(授業)	の形態)	Lecture							
Teachir	ng Method(挑 法)	受業の方	Omnibus le	cures. E-learning contents are available in s	ome le	ectures in bo	oth English and	Japanese.		
Course	e Goals(授業	の目的)	The goal of these system	this lecture series is to understand the basi ms (malignancy, immunodeficiency, and imr	s of he nune (ematopoietic disorders).	and immune s	systems, and disruption of		
Course Learning goals(学修 目標)			[A level (A Understand related dise [C level (C Understand related dise	水準)】 I the basics of hematopoietic and immune s eases and discuss about recent progress. 水準)】 I the basics of hematopoietic and immune s eases.	ystem ystem	s, their deve s, their deve	lopment, funct lopment, funct	ion, disruption, and ion, disruption, and		
Course	Outline(授業	の概要)	The aims of (1) The mec (2) The orig (3) The anir (4) Aging ar (5) Cell-cell (6) The mec	this lecture series are to understand the fol chanisms how the homeostasis of hematopo in of hematopoietic system and the mechar nal model bearing human hematopoietic sy nd tumorigenesis of hematopoietic system, interaction in the immune system, chanism of antigen-recognition and the imm	llowing vietic s nisms o stem a	gs: system is ma of developm and applicati esponse	intained as a st ent of hematop ions of this anir	em cell system, poietic stem cells, mal model,		
				Details for Individual Classes(各回の	授業内	内容)				
No.(回	Date(月	日)		Class Theme(授業テーマ)		Brie	ass(内容概略)			
, 1			Minetaro O	gawa [el-0]	Ontogeny of hematopoietic system-1					
2			Minetaro O	gawa [e]-0]	Ontogeny of hematopoietic system-2					
3			Saori Koga		Ontogeny of hematopoietic system-3					
3			Sauri Kuga		Differentiation of immune colls					
4 5			Seiji Okada							
5			Selji Okaua		Application of Humanized mice					
0			Chimun Curr		Molecular mechanism of myeloid malignancies					
/			Shinya Suzu		Regi					
°					ROIE		ingling at an	opolesis		
9			Yorifumi Sa		I-ce	and retrov		-11 - 1		
10			Hiroto Ohgi		Mole	ecular patho	genesis of plas	ma cell neoplasm		
			Hiroyuki Os	iniumi [eJ-0]	Role	e of innate in	mune cells du	ring viral infection		
12			Takushi No	mura [eEJ-0]	FION	v cytometric	analysis for 1-c			
13			Hiroyuki Os	hiumi [eJ-0]	Dev	elopment an	d function of ir	inate lymphoid cells		
14			Takushi No	mura [eEJ-0]	T-ce	ell responses	in SARS-CoV-2	2 infection		
15			Atsushi Irie	[eJ-0]	B ce	ell developm	ent and functio	in		
Estim	nated out-of- study time	class								
Require	ed Textbook	(テキス	Textbooks a	are not specified, and handouts will be distr	ibutec	d.				
Reading List(参考文献)			 "The Immune System" by Peter Parham. Garland Publishing Inc. New York and London, 2007 "Janeway' s Immunobiology Seventh Edition" by Kenneth Murphy, Paul Travers, Mark Walport. Garland Science, Taylor & Francis Group LLC. New York and Abingdon, 2008. The Immune System, 4th Edition [Peter Parham] Garland Science WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues. WHO, 2017. The Science of Stem Cells. Jonathan M. W. Slack. Wiley Blackwell, 2018 Williams Hematology, 9th ed. MCGRAW-HILL EDUCATION. 2016 							
Enrollm	ient Conditio 条件)	ons(履修								
Assess Criter	ment Metho ia(評価方法 ·	ds and · 基準)	Achievemer will be spec matter. The grades will participatio	nt of the Objectives will be evaluated by act ified after the lectures. Grading will be base students' understanding will be evaluated o be based on the average of the best 10 scor n in class discussions.	ive cla ed on t on the res of t	ass participat the student's basis of the the reports a	tion and the rep understanding reports and br and brief exami	ports, of which the theme g of the course subject ief examinations. Final nations as well as the		
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 目ナ	e Coding(科 - ンバー)	Year/Se m(年)	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S [.] Year	Eligible Student Year(開講年次)		Weekday and Period(曜 日・時限)
RDM7	-004-99-2	2025v	vhole year	Graduate School of Medical Sciences (20050)	1,	, 2, 3, 4	2	others
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)
	Infectio	on and Im	imune Contr	ol(B4 Infection and Immune Control)		SATO Yor KUBOTA MOTOZ Shinya, TANAł	ifumi, KUWATA Ryuji, OKADA ONO Chihiro, NAKATA Hirot (A Yasuhito, YA MONDE	NTakeo, IKEDA Masanori, Seiji, OSHIUMI Hiroyuki, SAWA Tomohiro, SUZU omo, IKEDA Terumasa, SUNAGA Jyunichirou, E Kazuaki
				Goals with their ratio(学修成果とそ	の割合	(1		
1.Advan and abi	nced expert l lity to take ir	knowledg nitiative a	ge, skill and r ction ····20	esearch capability ····30% 2.Profound inte % 4.Social leadership drive ····20%	r-discij	plinary kno	wledge ····30	% 3.Global perspective
Туре о	of Class(授業)	の形態)	Lecture					
Teachir	ng Method(挑 法)	受業の方	PowerPoint video lectur course stud	will be used in the lectures, and active part res are considered for those who are regular ents will be informed of the individual lectu	icipatio ly abse re style	on in the dis ent for unav e of instruct	scussion is enc oidable reason ors in detail.)	ouraged. Extra classes or s. (Before starting this
Course Goals(授業の目的)			The aim of t important for response, (2 management infectious d	this lecture series "Special Lecture I on Infe or basic and clinical research of infectious d 2) molecular pathogenesis of viral infection, nt of nosocomial/opportunistic infection, (5) iseases, (6) pathogenesis and treatment of i	ectious iseases (3) imr) diagn nfectio	Diseases a s: (1) intera mune contr osis and tre ous disease	nd AIDS" is to ction between ol and vaccine eatment of eme s.	learn following topics pathogen and host research, (4) rging/re-emerging
Course	Learning go 目標)	als(学修	[A level (A Students wi learn follow pathogen a research, (2 emerging ir [C level (C Understance (1) interacti (2) molecul (3) immune (4) manage (5) diagnos (6) Pathoge	水準)] Il learn following topics important for basic ing topics important for basic and clinical re nd host response,(2) molecular pathogenesi b) management of nosocomial/opportunistic factious diseases, (6) Pathogenesis and trea 水準)] ling for the following points. on between pathogen and host response ar pathogenesis of viral infection control and vaccine research ment of nosocomial/opportunistic infection is and treatment of emerging/re-emerging ir nesis and treatment of HIV-1 infection	and cli ssearch is of vir infect atment	nical reseau n of infectio ral infection ion, (5) diag of HIV-1 in us diseases	rch of infectiou us diseases. (1 ,, (3) immune c gnosis and trea fection.	s diseases. Students will) interaction between ontrol and vaccine tment of emerging/re-
Course	Outline(授業	きの概要)	The course (including g and preven protective i as the mech stem cells a	addresses the introduction (bacteriology, vi gram-positive and negative bacteria, a DNA of tion of infectious diseases and emerging and mmunity of host against infectious diseases nanism of T-cell recognition of the viral antig nd the strategy for the development of effect	rology) or RNA d reem includi gens, di ctive va) and partic viruses) foo erging infec ing HIV-1 ir ifferentiatio accine agair	ulars of various cusing on topic ctious diseases infection. Espect on of immune co nst HIV-1 infect	s pathogenic organisms s of pathogenesis, control . The course addresses ially, recent topics such ells from hematopoietic ion will be discussed.
				Details for Individual Classes(各回の	授業内	容)		
No.(回)	Date(月	3日)		Class Theme(授業テーマ)	Brief Outline of Class(内容概略)			
1			Terumasa II	keda [eE-O]	Retro	ovirus life cy	/cle	
2			Tomohiro S	awa 【eE-O】	Bacte	erial infection	on and pathoge	enesis
3			Hiroyuki Os	hiumi 【eE-O】	Innat	e immune r	responses to pa	athogens
4			Chihiro Mo	tozono [eE-O]	Cellu	ılar immune	e responses to p	oathogens
5			Takeo Kuwa	ata 【eE-O】	Humo	oral immun	e responses to	pathogens
6	06/3	0	5th period(16:45~18:15) Kazuaki Monde【eE-O】	Adap	tive evoluti	on of viral gene	es
7	07/0)7	5th period(O]	16:45~18:15) Jyunichirou Yasunaga 【eE-	Emer	ging/re-em	erging infection	us diseases
8			Shinya Suzu	ı [eE-O]	Retro	oviruses-hos	st interaction	
9			Yorifumi Sa	to 【eE-O】	Retro	oviral infecti	ions and latenc	у
10			Masanori Ik	eda 【eE-O】	Mole	cular patho	genesis of hep	atitis viruses
11			Yasuhito Ta	naka 【eE-O】	Нера	atitis viruses	and Liver cand	cer
12			Ryuji Kubot	a 【eE-O】	Virus	-induced n	eurological dise	eases
13			Seiji Okada	[eE-O]	Anim	al model re	search in infec	tious diseases
14			Hirotaka Ma	atsui [eE-O]	Roles	s of laborate	ory medicine fo	r infectious diseases
15			Hirotomo N	akata [eE-O]	Noso	comial/opp	oortunistic infe	ction
Estim	nated out-of- study time	class	• This cour frames) , 60 necessary t	se consists of content that requires hours (§) hours of pre- and post-study (including ass o deepen.	90 hou ignmer	irs) of study nts) is nece	. Since the clas ssary to unders	s is 30 hours (2h x 15 tand the class. It is
Require	ed Textbook ト)	(テキス	Textbooks a	are not specified, and handouts will be distri	buted.			
Read	ling List(参考	文献)	"Atlas of A "Infectious	IDS" edited by Gerald L. Mandell and Donr Diseases and Medical Microbiology" 2nd	na Mild Editior	lvan. Currei n, Abraham	nt Medicine, In I. Braude et al.	c. Philadelphia, 2001. , W.B. Saunders Company

Enrollment Conditions(履修 条件)	Have basic knowledge concerning what is taught in this course.
Assessment Methods and Criteria(評価方法・基準)	This class consisted of a series of omnibus lectures by 15 lecturers as listed in the schedule. Evaluation will be done based on active class participation, examination test and/or report for subjects by each lecturer. In order to get credits students have to take more than 2/3 lectures. Grading will be based on the average of top 10 scores among ones obtained by the student.
Language Used in Instruction(使用言語)	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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student ar(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7-	-005-79-2	2025	vhole year	Graduate School of Medical Sciences (20060)	1, 2, 3, 4 2 others			others	
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)	
Human Brain Functional Science (For students admitted in 2022 and before)(B5 Hum brain function science)					ıman	SHIMAI Kaz TAKEBA S	MURA Kenji, Bo zuya, BUNDO N YASHI Minoru, higeyuki, HASH)ku Syuken, IWAMOTO 1iki, Sou Bunketsu, FUJISE Noboru, ESUMI 1IMOTO Mamoru	
				Goals with their ratio(学修成果とそ	の割	合)			
1.Advan and abil	iced expert l lity to take ir	knowledg nitiative a	ge, skill and r	esearch capability ····80% 2.Profound inte 6	er-disc	ciplinary know	wledge ····19	% 3.Global perspective	
Туре о	f Class(授業)	の形態)	Lecture						
Teachir	ng Method(挑 法)	受業の方	PowerPoint Extra classe	and/or OHP will be used in the lectures, ar s or video lectures are considered for those	nd act who	ive participat are regularly	tion in the disc absent for una	ussion is encouraged. voidable reasons.	
Course	e Goals(授業)	の目的)	A highly cor environmer memory, co neurons. In mental activ divergence mental and	nplex structure, human brain is developed tal information and uses the information di gnition, spirit and identity in its structure by this lecture series, 'Human brain function <i>v</i> ity appears from 'gene expression', neu in the neuronal circuit. Students will unders psychiatric disorders.	from a rectly / incre al Scie ron ele stand	a simple cent for its body r easing numbe ence , stude ectrical activ the mechani	ral nervous sys response. Hum er of neurons a ents will be abl ity, informatior sms underlying	tem (CNS) that detects an brain achieved nd number of subtypes of e to understand how o convergence and g brain function as well as	
Course	Learning go 目標)	als(学修	[A level (A Fully under: [C level (C Understand	水準)] stand the contents and points that the lectu 水準)] about 60% of the contents and points that	irers s the le	set. ecturers set.			
Course	Outline(授業	(の概要)	We will des and regiona synaptogen You will also	cribe and discuss following issues: cellular a lization, neural differentiation and process esis. You will learn how environmental infor o learn genetic and neuronal bases of ment	and m of mo matio al acti	olecular mec orphogenesis on is conveye ivity and diso	chanisms of ind , histogenesis, d to human bra orders.	uction of neural plate circuit formation, and ain region and processed.	
	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			SHIMAMUR	SHIMAMURA [eE-0,eJ-0] Neural induction					
2			SHIMAMURA 【eE-0,eJ-0】 Regionalization of embryonic brain					rain	
3			SHIMAMURA [eE-0,eJ-0] Regionally distinct histogenesis in brain					in brain	
4			ESUMI [eEJ-0] Neuronal diversity and network formation					formation	
5			ESUMI [eEJ-0] Neuronal network in the neocortex					rtex	
6			SONG [eE	-0,eJ-0]	Acti	Action potential			
7			SONG [eE	-0,eJ-0]	Syn	apse and syn	aptic transmiss	sion	
8			SONG [eE	-0,eJ-0]	Neu	urotransmitte	r		
9			SONG [eE	-0,eJ-0]	Synaptic plasticity				
10			FUJISE 【eE	E-0,eJ-0]	Neu	urotransmitte	r and mental sy	/mptom	
11			IWAMOTO	[eE-0]	Gen	netics and ep	igenetics of ps	ychiatric disorders	
12			BUNDO [e	E-0]	Som	natic mutatio	ns and psychia	tric disorders	
13			HASHIMOT	O [eEJ-0]	Neu	ural basis of c	lementia		
14			TAKEBAYAS	GHI [eJ-0]	Mul	ltiple approa	ple approaches to mental disorder		
15			BOKU 【eJ-	0]	Neu	ural basis of n	nental disorder		
Estim	nated out-of- study time	class	60 hours						
Require	ed Textbook ト)	(テキス	Not specifie	ed.					
Read	ing List(参考	文献)	Not specifie	ed					
Enrollm	ent Conditic 条件)	ons(履修	attending 6	0% of lectures and taking short tests in eac	h lecti	ure			
Assess Criteri	ment Metho ia(評価方法・	ds and · 基準)	Rate of finis	hed e-Learning. Points earned by passing s	hort e	examinations			
Lar Instr	nguage Used ruction(使用	t in 言語)	Japanese ar	nd English (e-learning contents are either in	Engli	sh, Japanese	, or mixture of	them.)	
Tex Languag	tbook/Mate ge(教科書・資 語)	erial 資料の言	Combinatio	n of Japanese and English (e-learning conte	ents ai	re either in E	nglish or Japan	ese)	
Course Work E を	Based on P xperience(実 活かした授業	ractical ≋務経験 ≹)	Not applica	ble					

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)
RDM7-	-006-79-2	2025	whole year	Graduate School of Medical Sciences (20070)	1, 2, 3, 4 2 others			
	Course Title(Theme)(科目名(講義題目)) Instructor(s)(担当教員)						s)(担当教員)	
	Neuro	oscience	(For student	s admitted in 2022 and before)(B6)		SHIODA Hidenc Yasuhiro,	Norifumi, FUK bu, ERA Takun INOUE Toshih YAMASHI	UDA Takaichi, MIZUNO ni, ORITA Yorihisa, Itou iro, TAKEMOTO Makoto, TA Satoshi
				Goals with their ratio(学修成果とそ	の割合	ት)		
1.Advan	ced expert l	knowledg	ge, skill and r	esearch capability ····80% 2.Profound inte	r-disci	plinary kno	wledge ····20	%
Туре о	f Class(授業	の形態)	Lecture					
Teachir	ng Method(挑 法)	受業の方	PowerPoint	will be used in the lectures.				
Course	e Goals(授業	の目的)	In this cour cortex, main systems, an regenerativ	se, you learn structure and function of sever ormation of the brain due to the abnormalit d neurodegenerative disorders. Recent adva e medicine are discussed.	al brai ies in o ances i	n regions, p developmer in the thera	ostnatal develo nt, pathophysio peutic approac	opment of somatosensory logy in the sensory hes including
Course Learning goals(学修 目標)			[A level (A Students ca therapeutic somatosens presented t [C level (C Students ca abnormaliti pathophysi	水準)] in explain the structure and function of the of approaches to the neural disorders using st sory, visual, and auditory systems and their to opics and explain their ideas to investigate t :水準)] in explain the basic knowledge about the str es, new therapeutic approaches to the neur ology in the somatosensory, visual, and audi	central cem ce reatme che issi ructure al diso tory sy	l nervous sy ills and gene ents. Studer ues. e and function rders using rstems and f	stem and its ab e targeting, pat its can also find on of the centr stem cells and their treatment	phormalities, new hophysiology in the d unresolved issues in the al nervous system and its gene targeting, s.
Course Outline(授業の概要)			(1) general developme function of Gene abno treatment; treatment; (14) State-o	(1) general structure of the brain; (2) Structure and function of the neocortex and hippocampus; (3) `Post development of somatosensory cortex; (4) Morphology and function of the visual cortex; (5) Morphology a function of the basal ganglia; (6) Neural crest cells and pluripotency; (7) Nerve growth factor and apoptosi Gene abnormality and the resultant congenital insensitivity to pain; (9) Deformity of central nervous syster treatment; (10) Pathophysiology and treatment of retinal diseases; (11) Glaucoma pathophysiology and treatment; (12) Hearing impairment and treatment; (13) Regenerative medicine for neurodegenerative dis (14) State-of-the-art therapies for Parkinson's diseases				
			•	Details for Individual Classes(各回の	授業内	容)		
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)
1			FUKUDA Ta	kaichi [eEJ-0]	Gene	eral structur	e of the brain	
2			FUKUDA Ta	kaichi [eEJ-0]	Struc hipp	cture and fu ocampus	nction of the n	eocortex and
3			MIZUNO H	denobu [eEJ-0]	Posti	natal develo	pment of the s	omatosensory forex
4			FUKUDA Ta	kaichi [eEJ-0]	Struc	cture and fu	nction of the vi	isual system
5			FUKUDA Ta	kaichi [eEJ-0]	Struc	cture and fu	nction of the b	asal ganglia
6			ERA Takum	i [eJ-0,eE-0]	Deve pluri	elopment an potency	d differentiatic	on of neural crest cell,
7			ERA Takum	i [eJ-0,eE-0]	New syste	medical ap em using ste	plication to dis m cell	eases of the nervous
8			ТАКЕМОТС	Makoto [eE-0]	Lear	ning, memo	ry, and emotio	า
9			SHIODA No	rifumi [eE-0]	The targe	potential of et for neurol	nucleic acid st ogical diseases	ructures as a therapeutic
10			ITOU Yasuł	iro [eE-0]	Path	ology and tr	reatment of ret	inal diseases
11			INOUE Tos	nihiro [eE-0]	Glau	coma pathc	physiology and	d therapy
12			ORITA Yoril	nisa [eJ-0]	Olfac	ction impair	ment and the t	reatment
13			YAMASHIT	A Satoshi [eE-0]	Rege	enerative me	edicine for neu	rodegenerative diseases
14			YAMASHIT	A Satoshi [eE-0]	State	e-of-the-art	therapies for Pa	arkinson's diseases
15								
Estim	ated out-of- study time	class						
Require	ed Textbook ト)	(テキス						
Read	ing List(参考	文献)						
Enrollm	ent Conditio 条件)	ons(履修						
Assess Criter	ment Metho ia(評価方法	ds and 基準)	The studen be scored f	ts' understanding will be evaluated on the b rom 0 to 100. Final grades will be based on	asis of the av	quizzes related quizzes related quizzes related quizzes related to the quizzes related quizzes rela	ated to the top 10 highest sco	ics dealt with in class to ores out of 15 quizzes.
Lar Instr	nguage Used uction(使用)	l in 言語)	Japanese a	nd English				
Tex Languag	tbook/Mate ge(教科書・う	erial 資料の言	Combinatio	n of Japanese and English				

語)	Combination of Japanese and English
Course Based on Practical Work Experience(実務経験 を活かした授業)	Applicable (Fourteen out of fifteen classes are lectured by teachers with practical work experience in clinical medicine.)

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E St Year(iligible tudent (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	-007-79-2	2025	whole year	Graduate School of Medical Sciences (20080)	1, 2, 3, 4 2 others			others		
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)		
	NISHINAKAMURA Ryuichi, OKAE Hiro ISHIGURO Keiichiro, NAKAMURA Akira Developmental and Regenerative Medicine(B7) Developmental and Regenerative Medicine(B7) TAKEO Toru, NODA Taichi, ARIMA Yui KOBAYASHI Akio									
	Goals with their ratio(学修成果とその割合)									
1.Advan and abil	1.Advanced expert knowledge, skill and research capability ····50% 2.Profound inter-disciplinary knowledge ····25% 3.Global perspective and ability to take initiative action ····20% 4.Social leadership drive ····5%									
Туре о	f Class(授業	の形態)	Lecture							
Teachir	ng Method(挑 法)	受業の方	PowerPoint encouraged	will be used in the lectures, and active parti d.	cipatio	on in the di	scussion is			
Course	e Goals(授業	の目的)	Developme developme which have Developme obtain esse	ntal and regenerative medicine aims at curir nt. In this course, you learn basic concepts a now become essential for any area of resear ntal and Regenerative Researcher Program, ntial knowledge on genetic engineering tech	ng disea Ind tec rch. Th and wi Iniques	ases by rev hniques us is course se Il also be u s.	ealing molecul ed in this filed, erves as introdu seful for those	ar mechanisms of organ including knockout mice, uctory for those in the in other programs, as you		
Course	Learning go 目標)	als(学修	[A level (A Master basi treatments [C level (C Master basi treatments.	水準)】 ic concepts and techniques used in this filed based on the knowledge. :水準)】 ic concepts and techniques used in this filed	l, and is	s able to ex s able to ur	plain the disea	se mechanisms and lisease mechanisms and		
(1) Establishment and application of stem cells including ES and iPS cells; (2) Reproductive engineering i in vitro fertilization, freezing of embryos and sperms, embryo transfer, intracytoplasmic sperm injection, a nuclear transfer; (3) Genome editing technology and knockout mice; (4) Maintenance and differentiatio stem cells; (5) Placental development; (6) Organ development and disease including the kidney, liver, pa muscle, neuron, gonad, heart and vasculature; (7) Regenerating organs from stem cells						tive engineering including perm injection, and and differentiation of kidney, liver, pancreas,				
				Details for Individual Classes(各回の	授業内	容)				
No.(回)	Date(月	3日)	Class Theme(授業テーマ)			Brief Outline of Class(内容概略)				
1			Ryuichi NIS	HINAKAMURA [eE-0]	Overview & Kidney development			nt		
2			Toru TAKEC	D [eE-0]	Repro	oductive en	igineering			
3			Taichi NOD	A [eE-0]	Gene applio	ration of ge cation	enetically modi	fied mice and their		
4			Hitoshi NIW	/A【eE-0】	Mole	cular basis	of embryonic s	tem cells I		
5			Hitoshi NIW	/A【eE-0】	Mole	cular basis	of embryonic s	tem cells II		
6			Takumi ERA	A [eE-0]	iPS ce	ells, their a _l	pplications for	the medicine		
7			Hiroaki OKA	AE [eE-0]	Pregr	nancy in ma	ammals			
8			Shinya OKI	[eE-0]	Bioin	formatics ir	n developmenta	al biology		
9			Yasushi YAI	BUKI [eE-0]	iPS ce	ells and neu	urodegeneratio	'n		
10			Shigeyuki E	sumi [eE-0]	Anato	omy of dige	stive tracts and	lung		
11			Akio KOBA	YASHI 【eE-0】	Deve	lopment of	the urogenital	system		
12			Yusuke ON	O [eE-0]	Musc	le developi	ment and reger	ieration		
13			Akira NAKA	MURA [eE-0]	germ	cell format	ion: preformati	on and epigenesis		
14			Keiichiro IS	HIGURO [eE-0]	germ	cell develo	pment in mam	mals		
15			Yuichiro AR	RIMA [eE-0]	Differ Heart	rentiation, N t and Blood	Maturation, and Vessels	Regeneration of the		
Estim	nated out-of- study time	class	60 hrs		-					
Require	ed Textbook ト)	(テキス								
Read	ing List(参考	文献)	 "Developmental Biology, 12th edition" by Barresi MJF& Gilbert S 2019. "Essential Developmental Biology, 4th edition" by Slack JMW &Dale L.,Blackwell Publishing 2021 "Manipulating the Mouse Embryo: A Laboratory Manual, 4th edition" by Nagy A., Gertsenstein M., Vintersten K., Behringer R., Cold Spring Harbor Laboratory Press, 2014. "Larsen's Human Embryology, 5th edition" by Shoenwolf GC, Bleyl SB, Brauer PR, Francis-West PH. Churchill Livingstone, 2014. 							
Enrollm	ent Conditio 条件)	ons(履修								
Assess Criter	ment Metho ia(評価方法	ds and · 基準)	The studen in class to b well as the	ts' understanding will be evaluated on the ba be scored from 0 to 100. Final grades will be final report and active participation in class o	asis of based discuss	papers and on the ave sions.	quizzes relate rage score of t	d to the topics dealt with ne papers and quizzes, as		
Lar Instr	nguage Used ruction(使用	t in 言語)	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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	-008-81-2	2025	whole year	Graduate School of Medical Sciences (20090)	1	1, 2, 3, 4 2 others		others		
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)		
	Environmental and Sociomedical Sciences(B8)							ihiko, SOEJIMA Hirofumi, da Shota, Katou Takahiko, ı Xi		
				Goals with their ratio(学修成果とそ	の割る					
1.Advan and abi	ced expert l ity to take ir	nowled و hitiative a	ge, skill and r action ••••10	esearch capability ····25% 2.Profound inte)% 4.Social leadership drive ····40%	r-disc	iplinary know	wledge ····25	% 3.Global perspective		
Туре о	f Class(授業)	の形態)	Lecture							
Teachir	ng Method(挑 法)	受業の方	PowerPoint Extra classe	and/or OHP will be used in the lectures, an s or video lectures are considered for those	d acti who a	ve participat are regularly	tion in the disc absent for una	ussion is encouraged. woidable reasons.		
Course	e Goals(授業)	の目的)	The purpos preventive a neuropsych	e of this course is to develop the logic of the and environmental medicine (hygiene), publ iatry.	e broa ic hea	d field of So alth, health n	cial Medicine f nedicine, foren	rom the viewpoints of sic medicine and		
Course Learning goals(学修 目標)			[A level (A Social Medi medicine an medical soc students ar Medical can Students wi [C level (C	[A level (A水準)] Social Medicine is an important field of medical science in studying various aspects of the interaction between medicine and society in the human life cycle. The health of the humans is regulated in the ecosystem, and, as the medical social application, it is also supported by the comprehensive health and welfare system. In this course, students are expected to understand the relationship between the environment and health, the concept of total medical care service including disease prevention & health promotion, and individuals' basic human rights. Students will also comprehensively learn the role of medicine and law in maintaining social safety. [C level (C水準)]						
Course Outline(授業の概要)			There will b structure of evaluation, Public Heal and epiderr forensic me perspective Medicine, s events, soci	There will be practical lectures in the Department of preventive and environmental medicine (hygiene) of structure of the environment, the relationship between people and the environment, environmental ind evaluation, and the setting and maintenance of environmental standards, and lectures in the Departmen Public Health on the concept of health and the construction of a healthy society based on preventive m and epidemiology. In the Department of Forensic Medicine, there will be general lectures on the purpos forensic medicine, as well as the causes of the death and its classification from the medical, legal and so perspectives, and forensic medicine' s contribution to society. In the Department of Clinical Behaviora Medicine, students will learn about the epidemiology of mental diseases and the relationship between I events, social support, personality, recognition pattern, nurture experience and mental disease.						
				Details for Individual Classes(各回の	授業内	內容)				
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	of Outline of Cl	ass(内容概略)		
1			Takahiko Ka	atoh 【eE-0, eJ-0】	Pub	lic health:N	leaning of soci	al medicine		
2			Takahiko Ka	atoh 【eE-0, eJ-0】	Public health : Epidemiology					
3			Hisamitsu C	Omori 【eEJ-0】	Pub	lic health:N	ledical Screen	ing		
4			Rie Sano 【e	eE-0, eJ-0】	Defi	nition and p	urpose of forer	nsic medicine		
5			Rie Sano 【e	eE-0, eJ-0]	Fore	ensic medicii	ne & forensic s	cience		
6			Rie Sano 【	eE-0, eJ-0]	Soci	al aspect of	human death (1)		
7			Xi Lu 【eE-0	0]	Med	lical Statistic	S			
8			Xi Lu【eE-0	0]	Rese	earch Desigr	of Epidemiolo	gy		
9			Hirofumi So	oejima 【eE-0, eJ-0】	Gen	eral Medicin	e: Atheroscler	osis		
10			Rie Sano 【	eE-0, eJ-0]	Soci	al aspect of	human death (2)		
11			Kunihiko M	atsui [eJ-L]	Gen resu	eral Medicin Its	e: Clinical stud	lies, interpretation for		
12			Shota Masu	da [eE-0]	Pub	lic Health: S	ets of statistics	of a population in Japan		
13			Shota Masu	ida [eE-0]	Publ Insu	lic Health : rance Syster	Social Security n in Japan	System and Medical		
14			Hirofumi So	oejima 【eE-0, eJ-0】	Bloc	od Coagulati	on and Fibrioly	rsis		
15			Hirofumi So	oejima【eE-0, eJ-0】	Lifes	style and Co	ronary Artery D	isease		
Estim	ated out-of- study time	class								
Require	ed Textbook ト)	(テキス	Textbooks are not specified, and handouts will be distributed.							
Read	ing List(参考	文献)	 "Public "Forens 	Health & Preventive Medicine" by Maxy-Ro ic Pathology" by Bernard Knight, 2nded, /	osenai Arnolo	n-Last: (14 e d, London, S	dit) Appleton & ydney and Auc	& Lange. 1998, kland, 1996.		
Enrollm	ent Conditio 条件)	ons(履修								
Assess Criter	ment Metho ia(評価方法 ·	ds and · 基準)	Grading wil and the fina students' ur class to be Final grades discussions	I be based on active class participation, pap al report. Grading will be based on the stude nderstanding will be evaluated on the basis scored from 0 to 100. s will be based on the average score of the p	er sur nt's u of pap papers	mmaries, nderstandin pers and quiz s and quizzes	g of the course zzes related to s as well as par	subject matter. The the topics dealt with in ticipation in class		
Lar	nguage Used	l in	Japanese ar	nd English						

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)	Applicable (A teacher with practical work experience in Public Health, Regional Medicine, or Forensic Medicine will lecture.)

Course 目ナ	e Coding(科 - ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7	-009-82-2	2025	whole year	Graduate School of Medical Sciences (20100)	1	, 2, 3, 4	2	others	
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)	
с	urrent Theo	ry of Mec	lical Diagnos	is(C1 Current Theory of Medical Diagnosis)		HIRAI Hirotaka, (Shinya, K Jiyouno Hi	Toshinori, MIK GOTO Hiroki, K OMOHARA Yos rofumi, SHINRI BABA Masaya,	AMI Yoshiki, MATSUI OJIMA Akihiro, SHIRAISHI shihiro, UEDA Mitsuharu, KI Satoru, Misumi Youhei, SATO Yonosuke	
Goals with their ratio(学修成果とその割合)									
1.Advan and abi	nced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ••••5%	esearch capability ····45% 2.Profound inte 6 4.Social leadership drive ····5%	r-disc	iplinary know	wledge ····45	% 3.Global perspective	
Туре о	of Class(授業	の形態)	Lecture						
Teachir	ng Method(挑 法)	受業の方	PowerPoint Extra classe	files will be used for giving the lectures, and s or video lectures will be considered for the	l activ ose wl	ve participati ho are regula	on in the discu arly absent due	ission is encouraged. e to unavoidable reasons.	
Course	e Goals(授業	の目的)	The lecture modern me	series "Current Theory of Medical Diagnos dical diagnostic techniques and their applic	is" a ation	fford fundar in practical	nental and cur medicine and r	rent general views of medical research.	
Course	Learning go 目標)	als(学修	[A level (A Students ar expected to	水準)] e expected to understand cutting-edge adva find devise a method to discover unsolved	anced proble	method for ems and lead	disease diagno d to solutions.	osis. Students are also	
			Students ar	小华)] e also expected to find devise a method to c	liscov	er unsolved	problems and	lead to solutions.	
Course Outline(授業の概要)			In the field addition, m coagulatior In the field databases i currently be In the field presented. In the field RI molecula In the field	n the field of Pathology, current morphology and its application for cancer diagnosis will be introduced. In addition, molecular approaches for a research in cancer cell differentiation, proliferation and invasion, blood coagulation system and immune reaction (especially on macrophage) will be shown. In the field of laboratory medicine, we will outline advanced diagnostic approaches through genome analysi databases in the post-genome era, and introduce the basics and practices of "cancer genomic medicine" tha currently being practiced. In the field of Radiology, detailed implication of CT and MRI images and their application for researchers wi presented. In the field of Isotope Science, basic research such as SPECT and immuno-PET using mouse models, as wel RI molecular imaging and nuclear medicine treatments are outlined.					
				Details for Individual Classes(各回の	授業内	內容)			
No.(回)	Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1			Sato Y (Patl	nol Exp Med) 【eJ-0】	Tum	or diagnosis	with immunoł	nistochemistry.	
2			Komohara	イ (Cell Pathol) 【eJ-0】	pathology and immunity; Cancer Immunotherapy and PD-L1				
3			Komohara `	(Cell Pathol) 【eJ-0】	Pathology and Immunity: The Microenvironment of Cancer				
4			Komohara `	(Cell Pathol) [eJ-0]	Path Nod	ology and Ir es	nmunity: Canc	er Immunity and Lymph	
5			Mikami Y (F	Pathol Diagnosis) [eJ-0]	Histopathologic approach to diagnostic oncology: a logic for interpretation of morphology.				
6			Ueda M (Ne	eurology) [eJ-L0]	Rece neur	ent advance: rological dise	s in diagnostic eases	methods for intractable	
7			Misumi Y (N	leurology) [eJ-0]	Adva dise	anced diagn ases	ostic approach	es for rare and inherited	
8			Shinriki S (L	aboratory Medicine) 【eJ-0】	Application of next generation sequencing for clinical diagnosis				
9			Shinriki S (L	aboratory Medicine)【eJ-0】	Prac	tice and pro	spect of clinica	al diagnostic medicine	
10			Jono H (Clir	n Pharm Sci) 【eJ-0】	Drug evid	g discovery r ence	esearch based	on basic and clinical	
11			Hirai T (Dia	g Radiology) 【eJ-0】	Fore	efront of MR	imaging and re	search approaches	
12			Hirai T (Dia	g Radiology) 【eJ-0】	Fore	efront of CT i	maging and re	search approaches	
13			Goto H (RI S	Science) [eJ-0]	Mole	ecular Imagi	ng Using RI [Ba	sics]	
14			Shiraishi S (RI Imaging) 【eJ-0】	Mole	ecular Imagi	ng Using RI [Cl	inical]	
15			Not open th	iis year					
Estim	nated out-of- study time	-class	This course 15 sessions deeply und	consists of content that requires 90 hours of), 60 hours worth of prior and post-work stu- erstand the classes.	of stud dies (i	dy. Since the including as:	classes will be signments, etc.	30 hours long (2 hours x) will be required to	
Require	ed Textbook ト)	(テキス	Each instru	ctor will specify as needed.					
Read	ling List(参考	文献)	Each instru	ctor will specify as needed.					
Enrollm	ent Conditio 条件)	ons(履修							
Assess Criter	ment Metho ia(評価方法	ds and · 基準)	Grading wil in this cour	l be based on active class participation, pap se is very poor or none, the students can obt	er sun tain ci	nmaries and redits for this	the final repor	ts. Even if the attendance gh e-learning system that	

Assessment Methods and Criteria(評価方法・基準)	are prepared in some classes, or a supplemental class. 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 and be scored from 0 to 100.
Textbook/Material Language(教科書・資料の言 語)	Combination of Japanese and English (We will use documents and materials in English whenever possible.)
Course Based on Practical Work Experience(実務経験 を活かした授業)	Applicable (Faculty members engaged in the clinical practice of Pathology, Radiology and Laboratory medicine will lecture disease diagnostics from the basics to actual levels in an omnibus style.)

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7-	-010-82-2	2025	whole year	Graduate School of Medical Sciences (20110)	1	, 2, 3, 4	2	others		
		Co	ourse Title(Th	neme)(科目名(講義題目))		Instructor(s)(担当教員)				
			Advanced	Therapeutics(C2)		SAKAGAMI Takuro, Kanba Tomomi, Murakami Daizou, MIYAMARU Satoru, FUKUSHIMA Satoshi, NAOE Hideaki, ISE Momoko, Hibi Taizou, TANAKA Yasuhito				
				Goals with their ratio(学修成果とそ	の割合	\$)				
1.Advan	ced expert l	knowled	ge, skill and r	esearch capability ····80% 2.Profound inte	r-disci	plinary kno	wledge ····20	%		
Type o	f Class(授業	の形態)	Lecture							
Teachir	ng Method(挑 法)	受業の方	PowerPoint	will be used in the lectures, and active part	icipati	ion in the di	scussion is end	couraged.		
Course Goals(授業の目的)			Basic conce the relation therapeutic rationale, co introduce the artificial org treatments	Basic concept of molecular targeting and clinical application using antibody, peptide will be reviewed. Because the relation between immune disorders and pathogenesis has been revealed, immune modulation serve as a therapeutic strategy for viral infectious diseases, auto-immune diseases, and cancer. This course provides a rationale, current evaluation and problems of immune-modulation therapy. On the other hand, this course will introduce the basic research and progress to the establishment of organ transplantation, cell transplantation and artificial organs, and also focus on the current efficacy and limitations. In addition, progress in endoscopic treatments will be reviewed. Eutre therapeutic strategies will be also discussed.						
Course Learning goals(学修 目標)			[A level (A To understa comprehen and artificia treatments [C level (C	水準)] and a rationale, current evaluation and prob d the basic research and progress to the est I organs, and also to know the current effica will be recognized. 水準)]	lems o ablish acy and	f immune-n ment of org d limitations	nodulation ther an transplanta 5. Finally, progr	apy. In addition, to ion, cell transplantation ess in endoscopic		
Course Outline(授業の概要)			Recent adva diseases. In carcinogen- has been de modulation and artificia endoscopic will focus o	Recent advances in molecular biology and medical engineering provide a new era in the treatment of variou diseases. In this regard, the molecules, which play central roles in the pathogenesis of chronic inflammation carcinogenesis, have been identified, leading to the development of molecular targeting therapies. In addit has been described how immune systems of the body contribute to pathogenesis of diseases, and immune-modulation has been employed in the clinical setting. Furthermore, organ transplantation, cell transplantat and artificial organs have been introduced to complement organ failures. On the other hand, progresses in endoscopic machinery have established endoscopic treatment, and serve as less invasive treatments. This of will focus on progress in treatments and future orientation of medicine.						
				Details for Individual Classes(各回の	授業内	容)				
No.(回)	Date(月	3日)	Class Theme(授業テーマ) Brief Outline of Class(内容概略)					ass(内容概略)		
1			Naoe Hideaki [eJ-0] Progress in endoscopic treatment and diagnosis gastrointestinal diseases					ent and diagnosis of		
2			Tanaka Yas	uhito [eJ-0]	State-of the art in diagnosis and treatment of hepatic disease					
3			Tanaka Yas	uhito [eJ-0]	Molecular targeting therapy in gastrointestinal & hepa diseases					
4			Sakagami Takuro [eJ-0] Progress in diagnosis and treatment diseases				ment of respiratory			
5			Sakagami T	akuro [eJ-0]	Topics of allergic respiratory diseases					
6			Sakagami T	akuro [eJ-0]	Topics of diagnosis and treatment of lung cancer					
7			Miyamaru S	atoru [eJ-0]	The diagnosis and management of dysphagia					
8			lse Momoko	o [eJ-0]	Treat sense	tment using orineural he	cochlear impla earing loss	ant for severe		
9			Murakami D	Daizo [eJ-0]	Endoscopic treatment of head and neck diseases					
10			Hibi Taizo	[eJ-0]	Organ transplantation; the past and the present					
11			Hibi Taizo	[eJ-0]	Liver transplantation; basis and clinical application					
12			Kamba Torr	nomi [eJ-0]	Curre	ent therape	utic strategy fo	r urogenital cancers		
13			Kamba Torr	nomi [e-0]	Endo	oscopic trea	tments for urin	ary diseases		
14			Fukushima	Satoshi [eJ-0]	Mole skin	ecular target	ing therapy for	autoimmune diseases in		
15			Fukushima	Satoshi [eJ-0]	Immu	une therapy	in skin cancer			
Estim	ated out-of- study time	-class								
Require	ed Textbook ト)	(テキス	Textbooks a	are not specified, and handouts will be distri	buted					
Read	ing List(参考	文献)	1) Molecula 2) Carithers Jan;6 (1):12	ar Cell Biology, sixth edition, by Lodish H, et RL Jr. Liver transplantation. American Assoc 22-35.	al. W.H ciation	H.Freeman, for the Stu	2008 dy of Liver Dise	ases. Liver Transpl 2000		
Enrollm	ent Conditio 条件)	ons(履修								
Assess Criteri	ment Metho ia(評価方法	ds and 基準)	Grading wil students' ur	Grading will be based on active class participation, understanding, paper summaries, and the final report. The students' understanding will be evaluated on the basis of papers and quizzes related to the topics dealt with in						

Assessment Methods and Criteria(評価方法・基準)	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
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

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7	-011-82-2	2025	whole year	Graduate School of Medical Sciences (20120)	1	, 2, 3, 4	2	others	
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)	
		Meta	abolic and Ci	nd Circulatory Regulations(C3) Nd Circulatory Regulations(C3) KUBOTA Naoto, MATSUMURA Takeshi, Kenichi, MATSUZAWA Yasushi, YAMAI Eiichiro, YOKOI Hideki, ADACHI Masatak Yuichiro, HIRATA Naoyuki, SUGITA Michil Tomomi, OIKE Yuuichi					
				Goals with their ratio(学修成果とそ	の割合	ት)			
1.Advan and abil	iced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ····30	esearch capability ····30% 2.Profound inte 1% 4.Social leadership drive ····10%	r-disci	plinary kno	wledge ····30	% 3.Global perspective	
Туре о	f Class(授業)	の形態)	Lecture						
Teachir	ng Method(把 法)	受業の方	PowerPoint classes and reasons. Please be s Medical Sci	/Zoom will be used in the lectures, and activ e-learning are considered for those who are ure to refer to the syllabus change as it will b ences.	ve par e not a pe ann	ticipation in ble to atten ounced on	the discussion d regular class the website of	n is encouraged. Extra es for unavoidable the Graduate school of	
Me syn (3) its Course Goals(授業の目的) ma me bet phy ma me			Metabolic a syndrome a (3) the path its theraped mechanism between th physiology, major renal mechanism these influe	Metabolic and Circulatory Regulations aim at learning the following items: (1) the pathogenesis of acute coronary syndrome and related factors, (2) the molecular mechanisms and therapeutic strategies of chronic heart failure, (3) the pathogenesis of metabolic disorders including diabetes mellitus and diabetic vascular complications, and its therapeutic strategy, (4) the molecular mechanisms of actions and secretion of insulin, (5) the molecular mechanisms and therapeutic strategy, (6) the relation between the progression of atherosclerosis or obesity, and inflammatory cells, (7) the molecular between the functional differentiation/regulation of each segment of the nephron, (8) the pathogenesis of major renal diseases and the underlying mechanisms causing the pathological conditions, (9) the influence and mechanisms of surgical stress to the metabolism and circulation, and the therapeutic strategy for controlling					
Course Learning goals(学修 目標)			[A level (A In this lectu clinical acti 1. Mechanii 2. Basic me myocardial 3. Molecula 4. Pathogenes 5. Molecula pathogenes 6. Molecula nephron. 7. Regulatic of proteinuu 8. Various in reactions, e influences. [C level (C You are req to the level	水準)] ire, you are expected not only to learn the for vity: sms of atherosclerosis evaluated by coronary chanisms of myocardial ischemia/reperfusic infarction. ir mechanisms and therapeutic strategies of nic mechanisms of diabetes mellitus, diabeti- ir mechanisms and therapeutic strategy for r is of atherosclerotic diseases. Ir basis of water-electrolyte balance by chan on and dysregulation of renal blood flow and ria and renal dysfunction. Influences of surgical stress (i.e. activation of tc.) to the metabolism and circulation, and t cx(準)] uired to roughly understand each item listed to apply them to research study or clinical a	Ilowin y imagon inju chron c com netabo nels al blooc the sy he the d abov ctivity	gs but also ing and the ry and card ic heart faile plications, a olic syndron nd transpor d pressure, a mpathetic n erapeutic str re; otherwise	to apply them t therapeutic str iac remodeling ure; and the actions ne and obesity, ters, and the re and the pathop nervous system rategy based or e you are regar	to research study or rategies. in experimental acute and secretion of insulin; one of the main rgulation along the hysiological mechanisms , pain, inflammatory n understanding these ded not having reached	
Course Outline(授業の概要)			 Mechanisms of atherosclerosis evaluated by coronary imaging and the therapeutic strategies. Basic mechanisms of myocardial ischemia/reperfusion injury and cardiac remodeling in experimental acute myocardial infarction. Molecular mechanisms and therapeutic strategies of chronic heart failure; Pathogenic mechanisms of diabetes mellitus, diabetic complications, and the actions and secretion of insulir 5. Molecular mechanisms and therapeutic strategy for metabolic syndrome and obesity, one of the main pathogenesis of atherosclerotic diseases. Molecular basis of water-electrolyte balance by channels and transporters, and the regulation along the nephron. Regulation and dysregulation of renal blood flow and blood pressure, and the pathophysiological mechanism of proteinuria and renal dysfunction. Various influences of surgical stress (i.e. activation of the sympathetic nervous system, pain, inflammatory reactions, etc.) to the metabolism and circulation, and the therapeutic strategy based on understanding these 						
			-	Details for Individual Classes(各回の	授業内	容)			
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1			Yasushi Ma	tsuzawa 【eE-0】	Mecl	hanism of m	yocardial ische	emia/reperfusion injury	
2			Eiichiro Yar	namoto [eE-0]	Mole chro	ecular mech nic heart fai	anisms and the llure	rapeutic strategies of	
3	3		Kenichi Tsu	jita [eE-0]	Mecl strate	hanisms of a egies	atherosclerosis	and therapeutic	
4			Michiko Su	gita 【eE-0】	Peric	operative St	ress and Invasiv	ve Control Mechanisms	
5			Tomomi Go	toh 【eE-0】	NO a	and nitroger	n metabolism d	isorders	
6			Naoto Kubo	ota [eE-0]	Insul	in and its ac	ctions-their mo	lecular basis	
7			Takeshi Ma	tsumura [eE-0]	Diab appr	etic complie oaches	cations and the	ir therapeutic	
8			Naoyuki Hir	rata [eE-0]	Mecl orga	hanisms and n injury	d therapeutic st	rategies of perioperative	

9		Naoyuki Hirata [eE-0] Mechanisms and therapeutic strategies of Postoperative cognitive decline				
10		Aasataka Adachi [eE-0] Renal potassium handling				
11		Hideki Yokoi 【eE-0】	Structure and function of nephron			
12		Yuichiro Izumi 【eE-0】	Sodium and water handling by the kidney			
13		Tomomi Gotoh 【eE-0】	ER stress-related diseases			
14		Naoto Kubota 【eE-0】	Pathogenesis and therapies of metabolic diseases			
15		Yuichi Oike 【eE-0】	Clarification of molecular and cellular mechanisms underlying aging and its associated diseases			
Estin	nated out-of-class study time	This course consists of contents which requires 90 hours of work. As the total of in-class hours becomes 30 hours (two hours x15 classes), additional 60 hours of pre-post study including some task will be required in order to improve comprehension of the course.				
Required Textbook(テキス ト)		Textbooks are not specified, and handouts will be distributed.				
Reading List(参考文献)		 Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine, 12th edition, edited by Libby P, et al. Saunders, Philadelphia, 2021. Miller's Anesthesia, 9th edition, edited by Miller RD. Elsevier Churchill Livingstone, Philadelphia, 2019. Brenner & Rector's The Kidney, 11th edition, Elsevier, Philadelphia, 2020. Comprehensive Clinical Nephrology, 6th edition, Mosby, 2019. 				
Enrollm	ent Conditions(履修 条件)	no limitation				
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 tests as well as participation in class discussions				
Language Used in Instruction(使用言語)		English (English)				
Textbook/Material Language(教科書・資料の言 語) English (English)						
Course Based on Practical Work Experience(実務経験 を活かした授業)						

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)
RDM7	7-012-82-2 2025whole year			Graduate School of Medical Sciences (20130)	1	, 2, 3, 4	2	others
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)
Repr	roductive an	d Develo	pmental Me N	ntal Medicine(C 4 Reproductive and Developmental MAKA Medicine) NAKA NAKA YA OZA Ru			MURA Kimitoshi, KONDO Eiji, HIBI Taizou, ATO Hitoshi, Matsumoto Shirou, KIDO Jun, 1AGUCHI Munekage, SAITOH Fumitaka, A Shirou, SAWADA Takaaki, ISONO Kaori, ni Sasaki, ANAN Kotaro, Shohei Kuraoka	
				Goals with their ratio(学修成果とそ	の割合	ት)		
1.Advan and abi	nced expert l lity to take ir	knowledg hitiative a	ge, skill and r action ····30	esearch capability ····30% 2.Profound inte % 4.Social leadership drive ····10%	r-disci	iplinary kno	wledge ····30	% 3.Global perspective
Туре о	of Class(授業)	の形態)	Lecture					
Teachir	ng Method(挑 法)	受業の方						
Course	e Goals(授業	の目的)	The lecture knowledge and during pathology o genetic and	of "Reproductive and developmental medi for physiology and pathology of human fertil pregnancy, and social issues related to these of development and growth of man. (4) Basic neuromuscular diseases, pediatric surgery	cine" izatior e inter know and or	aims to un n and pregn ventions. (3 ledge for di rgan transpl	derstand follov hancy. (2) Medi Basic knowle sorders which antation.	vings: (1) Basic cal interventions before dge for physiology and affects children including
Course	Learning go 目標)	als(学修	[A level (A The particip pathology, t birth, newb diseases an [C level (C	水準)] bants will learn basic knowledge for develop treatment, technology and ethical aspects in orn intensive care and assisted reproductive d organ transplantation. 水準)]	menta advar medi	l and growt nced medic cine, prena	h medicine and ine. They will a tal diagnosis ar	l issues of physiology, lso learn pregnancy, Id rare diseases, surgical
Course Outline(授業の概要)			I his class will introduce the most recent and important progress in the field of reproductive and developmental medicine. The lecture related to pregnancy and delivery will discuss medical and social issues in addition to the physiology of reproductive system. We will discuss biological and medical aspect of the reproductive system, and social and ethical problems. The ethical problems of assisted fertilization including in vitro fertilization, ICSI (Intra Cytoplasmic Sperm Injection), oocyte donation, cryopreservation of embryos, cryopreservation of sperm will be discussed. The class for neonatal medicine, we introduce principal physiology of newborn infants and various pathological conditions of this period. The participant will learn many different disorders. One of the important topics of this supported by surrounding environment of children which included social conditions. The participant will also learn neonatal surgical disorders and abdomanal organ transplantation for children. We will discuss the social problems which affect healthy development of children in recent years.					
			•	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			Kimitoshi N	akamura 【eE-0】	Inborn errors of metabolism			
2			Hitoshi Nak	azato [eJ-0]	Hereditary Nephropathy			
3			Kei Muraya	ma [eE-0]	Enzy inhei	me replace	ment therapy a es during child	nd gene therapy for hood
4			Takaaki Sav	vada [eE-0]	Cong	genital abno	ormalities and g	enetic counseling
5			Kotaro Anai	n [eE-0]	Mole disor	ecular basis rders in chil	and therapeuti dren	c strategies for pediatric
6	11/0	6	5th period	Shohei Kuraoka	Mod	eling Kidne	y Disease with	Pluripotent Stem Cells
7			Shiro Ozasa	a [eE-0]	The l of Pe Muse	Molecular P ediatric Neu cular Dystro	athogenesis ar romuscular dis phy and Spinal	d Therapeutic Strategies orders — Duchenne Muscular Atrophy —
8			Shiro Matsu	ımoto [eE-0]	Amin	no acid meta	abolism and Di	sorders
9			Jun Kido 【e	eE-0]	New disea	diagnostics ases	and treatment	s for rare pediatric
10	10 12/04 5th period		5th period	Rumi Sasaki	Pren	atal diagnos	sis, current stat	us and the ethics
11			Eiji Kondoh	[eE-0]	Mana	agement of	preeclampsia	
12			Fumitaka Sa	aito [eE-0]	Endo	ometrial phy	siology, pathol	ogy and carcinogenesis
13			Munekage `	Yamaguchi [eJ-0]	Villo funct	us macroph tions and pe	ages in the hur erinatal compli	nan placenta: a variety of cations
14			Kaori Isono	[el-0]	Relationship between macrophages and microbiota maintaining intestinal homeostasis			ages and microbiota in asis
15			Taizo Hibi	[eE-0]	Indic trans	ations and splantation f	outcomes of at for children	odominal organ
Estim	nated out-of- study time	class						
Require	ed Textbook ト)	(テキス						
Read	ling List(参考	(文献)	1					

Enrollment Conditions(履修 条件)	
Assessment Methods and Criteria(評価方法・基準)	The participants should submit a report including what they learned through the contents of lecture, and will be evaluated by score.
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)	Applicable

Course 目ナ	e Coding(科 ンバー)	Year/Se m(年,	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時 割コード)	間	Eligible Student Year(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7	17-013-83-2 2025whole			Graduate School of Medical Sciences (20140)	5	1, 2, 3, 4	2	others	
		Co	ourse Title(Th				Instructor(s)(担当教員)	
		Ad	dvances in O	ncologic Medicine(C5)		SUZUKI M NAKAYA Hiromits	akoto, ARAKI N MA Hideki, MI` su, OKABE hirol Ko	lorie, IWATSUKI Masaaki, YAMOTO Yuji, HAYASHI hisa, IDA satoshi, IKEDA pei	
				Goals with their ratio(学修成果。	とその)割合)			
1.Advan	nced expert l	knowledg	ge, skill and r	esearch capability ····45% 2.Profound i	inter-o	disciplinary kno	wledge ····35	% 3.Global perspective	
	of Class(授業)	の形能)							
Teachir	ng Method(#	受業の方	PowerPoint	will be used in the lectures and active n	artici	ination in the di	scussion is enc	ouraged Extra classes or	
	读 (Netriod()) 法)		video lectur	res are considered for those who are reg		absent for unav	oidable reason	t findings of medical	
Course	e Goals(授業)	の目的)	oncology as	s follows:	scour	se serves evider		t mangs of mealcar	
Course	Learning go 目標)	als(学修	[A level (A To understa oncology as surgery; (3) [C level (C	水準)】 and advances in oncologic medicine, this s follows: (1) Overview of tumor biology a Recent advances in oral and maxillofacia 水準)】	s cour and ge al sur	rse serves evider enetics; (2) Rece gery; (4) Recent	nces and recen ent advances in advances in th	t findings of medical gastroenterological oracic surgery	
Course	Outline(授業	きの概要)	This course some of lea related gen diagnostic t Many peop gastrointest cutting-edg	This course overviews landmark findings in mechanism of tumor genesis and recent developments, and serves some of leading-edge research and our data. We focus on following topics: molecular mechanisms of tumor-related genes, cell cycle, cell death, cell differentiation; therapeutic agents based on tumor biology; molecular diagnostic tools, genome, transcriptome and proteomics; cancer stem cell. Many people suffer from gastroenterological cancers (esophageal, gastric, colon, pancreas, liver, billiary tract and gastrointestinal stromal tumor). We explain not only standard treatment for gastroenterological cancer but also cutting-edge treatment for refractory or metastatic or recurrent gastroenterological cancer					
				Details for Individual Classes(各回	回の授	發業内容)			
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1	10/0	7	(Tue) 4th pe	eriod Araki Norie 【eEJ-L】	1	Tumor Genetics	and biology (ir	troduction)	
2	10/1	4	(Tue) 4th p	eriod Araki Norie [eEJ-L]	Tumor Genetics and biology 1				
3	10/2	:1	(Tue) 4th period Araki Norie 【eEJ-L】			Tumor Genetics and biology 2			
4			lwatsuki Masaaki 【eJ-0】			Gastroenterological surgery (introduction)			
5			Okabe hirohisa 【eE-0】			Gastroenterological surgery 1			
6			Hayashi Hiromitsu [eJ-0]			Gastroenterological surgery 2			
7			Ida satoshi 【eE-0】			Gastroenterological surgery 3			
8			lwatsuki Ma	saaki [eE-0]	0	Gastroenterological surgery 4			
9			Miyamoto Y	′ushi [eE-0]	(Gastroenterological surgery 5			
10			Nakayama I	Hideki [eJ-0]	(Oral and maxillofacial tumors			
11			Nakayama I	Hideki [eJ-0]	[Diagnosis and treatment of oral cancer			
12			Nakayama I	Hideki 【eJ-0】	(Challenges in or	al cancer treati	ment	
13			Suzuki Mak	oto [eE-0]	(General discussion of Thoracic Surgery			
14			Suzuki Mak	oto [eJ-0]	-	Specific discussi	on of Thoracic	Surgery, Lung Cancer	
15			lkeda Koei	[eE-0]	١	Medistinal tumor			
Estim	nated out-of- study time	class							
Require	ed Textbook ト)	(テキス	Textbooks are not specified.						
Reading List(参考文献)		文献)	"Natural obsessions: The search for the oncogene" by Angier. N, Houghton Mifflin Co, 1988. "Cancer: principles & practice of oncology, 7th ed" by DeVita VT, Lippincott Williams & Wilkins.2004 "The biology of cancer" by Weinberg RA Garland Science, 2007. "Clinical Oncology." by Abeloff MD, Churchill Livingstone, . "ACS surgery: principles and practice" by Wilmore DW, WebMD. . "Thoracic Surgery. 2nd edition" by Pearson FG. Churchill Livingstone, 2002.						
Enrollment Conditions(履修									
Assess	条件) ment Metho	ds and 甘油)	Grading wil	l be based on active class participation, r	paper	r summaries,and	final report.		
Lar	nguage Usec	∞年) in 言語)	Japanese ar	nd English	-		-		
Tev	uction(使用)	⊐ ==) erial		-					
Languag	ge(教科書・資語)	資料の言	Combinatio	n of Japanese and English					

Course 目ナ	urse Coding(科 目ナンバー) Year/Semester/Ter m(年度・学期)		emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Ye	Eligible Student ear(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7-	DM7-014-83-2 2025whole year			Graduate School of Medical Sciences (20150)		1, 2, 3, 4	2	others	
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)	
		Th	e Forefront c	of Clinical Oncology(C6)		OYA I Jiyunichi YAMAMOT	Natsuo, MUKAS rou, MURAKAN O Yutaka, Sait Takeshi, IWA	SA Akitake, Yasunaga 11 Ryuji, NOSAKA Kisato, ou Fumitaka, MOTOHARA NAGA Eisaku	
				Goals with their ratio(学修成果とそ	その割	」合)			
1.Advan and abil	iced expert l itv to take ir	knowledg nitiative a	ge, skill and r action ••••10	esearch capability ····70% 2.Profound inte 0% 4.Social leadership drive ····10%	er-dis	sciplinary know	wledge ····10	% 3.Global perspective	
Type o	, f Class(授業)	の形態)	Lecture	ľ					
Teachir	ng Method(#	受業の方	Video lectu	res or e-learning programs may be consider	red fo	or those who a	re regularly ab	sent for unavoidable	
	法)		reasons.						
Course	e Goals(授業	の目的)	In Lecture S techniques oncology, (3	Series "Riron": C6 The Forefront of Clinica in the most advanced clinical oncology, inc 3) gynecological oncology, (4) neurooncolo	al On cludin gy, (5	icology II, you ng (1) radiatio 5) hematologio	learn basic coi n oncology, (2) cal oncology.	ncepts and novel breast and endocrine	
Course	Learning go 目標)	als(学修	[A level (A You learn b oncology, (i oncology, [C level (C	水準)】 asic concepts and novel techniques in the r 2) breast and endocrine oncology, (3) gyned :水準)】	most colog	advanced clir gical oncology	nical oncology, , (4) neuroonco	including (1) radiation ology, (5) hematological	
Course Outline(授業の概要) of fo			(1) The fore techniques surgery, cha gynecologia brathythera of neuroona forefront of suppression	(1) The forefront of radiation oncology, especially the development in 3-D conformal external beam radiotherapy techniques is lectured. (2) The forefront of breast and endocrine oncology is lectured, especially regarding surgery, chemotherapy, and molecular target therapy for breast cancer and thyroid cancer. (3) The forefront of gynecological oncology, especially the recent development and therapeutic modalities, is explained, including brathytherapy, external beam radiotherapy and chemoradiotherapy for uterine cervical cancer. (4) The forefront of neurooncology is explained especially regarding the molecular biology in malignant brain tumors. (5) The forefront of hematological oncology is lectured especially regarding the mechanisms in tumor development and suppression.					
				Details for Individual Classes(各回の授業内容)					
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	of Outline of Cl	ass(内容概略)	
1			Natsuo Oya	[eJ-0]	"F	Radiation biol	ogy and physic	s"	
2			Natsuo Oya	[eJ-0]	"S raio	Stereotactic ra dotherapy"	diotherapy and	d intensity-modulated	
3			Ryuji Murak	ami [eJ-0]	"I rad	mage-guided liotherapy"	radiotherapy a	nd adaptive	
4			Yutaka Yam	namoto [eJ-0]	"Е	Biological feat	ures of breast o	cancer"	
5			Yutaka Yam	namoto [eJ-0]	"F	Paradigm shift	in breast canc	er treatment"	
6			Yutaka Yam	namoto [eJ-0]	۴٨	Molecular targ	et therapy for	breast cancer"	
7			Takeshi Mo	tohara [eJ-0]	"Е	Epidemiology	of gynecologic	al malignancies"	
8			Takeshi Mo	tohara 【eJ-0】	"F	Radiation ther	apy for gyneco	logical malignancies"	
9			Fumitaka Sa	aito [eJ-0]	"Paradigm shift of the treatment for gynecologic malignancies"			nt for gynecological	
10			Akitake Mu	kasa [eJ-0]	"(Character of b	rain tumor"		
11			Akitake Mu	kasa [eJ-0]	"E	Brain tumor di	agnosis"		
12			Akitake Mu	kasa [eJ-0]	"Е	Brain tumor th	erapy"		
13			Eisaku lwan	aga [eJ-0]	"⊦	lematological	oncology I - le	ukocytes"	
14			Kisato Nosa	aka [eJ-0]	"⊦	Hematological	oncology II - ly	ymphocytes"	
15			Jun-chirou	Yasunaga [eJ-0]	"⊦ ma	Hematological Ilignancies inc	oncology III - luced by viruse	Hematological ss"	
Estim	ated out-of- study time	class							
Require	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) Grading or the fir students class to well as p			Grading wil or the final students' ur class to be well as part	I be based on active class participation, pap report. Grading will be based on the studen nderstanding will be evaluated on the basis scored from 0 to 100.Final grades will be ba icipation in class discussions	oer su nt's ur of pa ased	ummaries, nderstanding apers and quiz on the averag	of the course s zes related to e score of the p	ubject matter. The the topics dealt with in papers and quizzes as	
Lar Instr	nguage Used uction(使用)	t in 言語)	Japanese						
Tex	tbook/Mate	rial	Japanese						

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 目ナ	e Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7	RDM7-015-83-2 2025who			vhole year Graduate School of Medical Sciences (20160)		1, 2, 3, 4 2 others		others	
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)	
		Restora	tive Medicine	e(C7 Restorative Medicine)		FUKU YASUNAG Hirotomo	SHIMA Satoshi A Junichirou, K , FUKUI Toshih MATSUMU	NISHIKAWA Takeshi, AWANO Hiroaki, NAKATA iro, MIYAMOTO Takeshi, RA Takeshi	
				Goals with their ratio(学修成果とそ	の割合	う)			
1.Advan	nced expert	knowledg	ge, skill and r	esearch capability ····50% 2.Profound inte	r-disci	iplinary kno	wledge ····30	% 3.Global perspective	
	of Class(授業	の形態)	Lecture						
Teachir	ng Method(<u></u>		PowerPoint	and/or OHP will be used in the lectures, an	d activ	ve participa	tion in the disc	ussion is encouraged.	
	法)		Extra classe	es or video lectures are considered for those	who a	are regularly	absent for una	voidable reasons.	
Course	e Goals(授業	の目的)	The objecti sepsis, the knowledge cardiovascu body surfac regenerativ basic know	ves of this course are for you to understand mechanisms of organ failure developed from regarding cardiovascular diseases and their Jlar diseases and their surgical treatment; (4 e blood flow distribution between anatomic e medical techniques; (5) disorders of bone ledge required to plan out and implement cl	the fol sepsi surgic) the r al loca and jo inical	llowing: (1) s, (2) risk fa al treatmen nechanisms ations, and p pint functior studies.	pathology and actors for coror t; (3) the latest of skin wound plastic surgery and the recor	therapeutic strategies of hary syndrome, the latest knowledge regarding healing, differences in procedures and struction thereof; (6)	
Course Learning goals(学修 目標)			Who could due to seps their surgic flow, techni for bone an for you to re questions te using e-lear [C level (C Who could (2) risk fact treatments; techniques bone and jo	(A level (內小年)) Who could understand and explain, (1) pathogenesis underlying and strategy to treat sepsis and organ failures due to sepsis; (2) risk factors for coronary syndrome; (3) latest knowledges regarding cardiovascular diseases and their surgical treatments; (4) mechanisms underlying dermal wound healing, distribution of body surface blood flow, techniques for plastic surgery and regenerative medicine; (5) mechanisms underlying and ways of treatment for bone and joint diseases; (6) basic knowledges for planning and conducting clinical studies. It is recommended for you to review the handout materials distributed in the lectures and your notebooks well. If you want to ask any questions to the lecturers, "Office Hour" is available for you. It is also recommended to review the lectures by using e-learning contents if available. [C level (C水準)] Who could understand, (1) pathogenesis underlying and strategy to treat sepsis and organ failures due to sepsis; (2) risk factors for coronary syndrome; (3) latest knowledges regarding cardiovascular diseases and their surgical treatments; (4) mechanisms underlying dermal wound healing, distribution of body surface blood flow, techniques for plastic surgery and regenerative medicine; (5) mechanisms underlying and ways of treatment for bone and joint diseases; (6) basic knowledges for planning and conducting clinical studies.					
Course Outline(授業の概要)			In this class, the current situation and problems of restorative medicine are explained in terms of both life support and vital function. With continued progress in the field of medicine, critical care medicine has produced a steady flow of successful results and its functional prognosis has also improved dramatically. We will introduce new definition and therapeutic strategies of international sepsis guidelines with outline of new clinical research. We will also provide the mechanisms of organ failure from sepsis in basic and clinical viewpoint. Moreover, we will provide lectures regarding risk factors for acute coronary syndrome, which needs urgent therapy, and the progress of surgical treatments for heart failure, ischemic heart diseases, and valvular heart diseases. Although disorders of the skin, bones, and joints are rarely directly life-threatening conditions, they greatly affect a patient's vital functions. We will explain the theory of skin wound healing and the latest molecular biological knowledge, and we will also provide lectures regarding the progress made in the area of skin flaps through studies of blood flow in human skin and discuss reconstructive medicine for the blood vessels, lymph vessels, and nerves in terms of the development of microsurgery.						
	-		-	Details for Individual Classes(各回の	授業内]容)			
No.(回)	Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1			Satoshi Fuk	ushima [eJ-0]	Mec	hanism of W	/ound healing		
2			Satoshi Fuk	ushima [eJ-0]	Reco	onstruction	by local frap		
3			Satoshi Fuk	ushima [eJ-0]	Reco	onstruction	with microsurg	ery	
4			Takeshi Miy	vamoto [eJ-0]	Path	ophysiology	of bone metal	polism	
5			Takeshi Miy	vamoto [eJ-0]	Phys	iology and l	biology of artic	ular cartilage	
6			Takeshi Miy	vamoto [eJ-0]	Infla	mmatory ar	thritis		
7			Takeshi Nis	hikawa [eJ-0]	Нурс	othesis and	Design of Clini	cal Researches	
8			Junichiro Ya	asunaga [eJ-0]	Hem	atopoiesis i cell transp	n the bone mai lantation therai	rrow and hematopoietic	
9			Hirotomo N	akata [eJ-0]				- ,	
10			Hiroaki Kav	vano [eJ-0]	Risk diffe	factors for a rence	acute coronary	syndrome and gender	
11			Toshihiro F	ukui [eJ-0]	Sugi	cal treatme	nt of heart failu	re	
12			Toshihiro F	ukui [eJ-0]	Surg	ical treatme	ent of ischemic	heart disease	
13			Toshihiro F	ukui [eJ-0]	Surg	ery of valvu	lar heart diseas	e	
14			Takeshi Ma	tsumura [eJ-0]	Hypo com	othesis and plications re	design from the	e perspective of diabetic	
15			Hiroaki Kaw	vano [eJ-0]	ΧΥc	chromosom	e related disea	se	
Estim	nated out-of	-class			-				

study time	
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)	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 dealt with in class to be scored from 0 to 100. Final grades will be based on the average score of the papers 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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時 割コード)	間割所属・時間	Eligible Student Year(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	-016-83-2	2025	whole year	Graduate School of Medi (20170)	cal Sciences	1, 2, 3, 4	2	others		
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)		
		Cance	er therapeutio	cs(C8 Cancer therapeutics)		SUZUK Takur Yorihisa NOSAKA Sato: MIX	l Makoto, MUK/ o, OYA Natsuo, , IWATSUKI Mas Kisato, YAMAM hi, MOTOHARA AMOTO Takesh	ASA Akitake, SAKAGAMI Kanba Tomomi, ORITA aaki, NAKAYAMA Hideki, OTO Yutaka, FUKUSHIMA Takeshi, Hibi Taizou, ni, TANAKA Yasuhito		
				Goals with their rat	tio(学修成果とそ	の割合)				
1.Advar and abi	nced expert lity to take ir	knowledg nitiative a	ge, skill and r action ••••5%	esearch capability ····60% 3 %	2.Profound inter	r-disciplinary kno	owledge ····35	% 3.Global perspective		
Туре о	of Class(授業	の形態)	Lecture							
Teachir	ng Method(挡 法)	受業の方	We deal wit	h a student by intensive lect	ure of power po	int or e-learning				
Course	e Goals(授業	の目的)	In the curre radiotherap directions c leading-edg respiratory neoplasia ((neuro-muso	nt lecture, we lead to compr y, chemotherapy and immur if cancer therapy. Furthermo e medical treatment for varic tract tumor (3) brain and ner 5) breast endocrine tumor (7 suloskeletal tumor (10) skin t	ehend the funda notherapy and th re, the aims of th ous types of can vous system neo) genitourinary s umor (11) hema	amental knowled ne historical cha ne current lectuu cer as follows: (` oplasm (4) head system tumor (8) itopoietic tumor	ge of therapy fo nge, standard tr e are to undersi) gastroenterol and neck tumor gynecological t (12) pediatric tu	or cancer such as surgery, eatment and future tand thoroughly the ogical tumor (2) · (5) otolarygological umor (9) orthopaedic and umors.		
Course Learning goals(学修 目標)			[A level (A To compreh and immun. To understa gastroenter tumor (5) oi tumor (9) oi tumors. [C level (C	[A level (A水準)] To comprehend the fundamental knowledge of therapy for cancer such as surgery, radiotherapy, chemotherapy and immunotherapy and the historical change, standard treatment and future directions of cancer therapy. To understand thoroughly the leading-edge medical treatment for various types of cancer as follows: (1) gastroenterological tumor (2) respiratory tract tumor (3) brain and nervous system neoplasm (4) head and neck tumor (5) otolarygological neoplasia (6) breast endocrine tumor (7) genitourinary system tumor (8) gynecological tumors. [C level (C水準)]						
Course Outline(授業の概要)			The aims of to standard guideline is number of o the standar	The aims of current lecture are to understand the up-to date treatment for the various types of cancer in addition to standard cancer therapy such as surgery, radiotherapy, chemotherapy and immunotherapy. In late years a guideline is devised every each organ, and maintain the balance of therapy is planned about the cancer.A number of clinical trials are promoted to attempt the standardization of the cancer therapy. You can learn how the standard treatments are confirmed from the results of various clinical trials.						
				Details for Individual	Classes(各回の)	受業内容)				
No.(回)	Date(月	3日)		Class Theme(授業テーマ)	1	Br	ief Outline of Cl	ass(内容概略)		
1			Yasuhito Ta	naka [eJ-0]		Medical treatm	ent of the gastro	pintestinal cancer		
2			Masaaki lw	atsuki [eJ-0]		Surgical cure o	the digestive c	ancer		
3			Takuro Saka	agami [eJ-0]		Medical treatm	ent of the lung o	cancer		
4			Makoto Suz	uki [eJ-0]		Surgical treatm	ent of the lung o	cancer		
5			Hideki Naka	ayama [eJ-0]		The treatment of The lecture will clinical applica chemotherapy, patients.	of the Oral canc be performed c tion of surgery, I and immunothe	er on the effectiveness and radiotherapy, erapy in oral cancer		
6			Yorihisa Ori	ta [eJ-0]		The treatment of the head and neck cancer				
7			Takeshi Miy	ramoto [eJ-0]		The treatment	of the bone soft	part tumor		
8			Yutaka Yam	amoto [eJ-0]		Treatment of b	east cancer			
9			Takeshi Mo	tohara [eJ-0]		The treatment	of the gynecolog	gic malignant tumor		
10			Tomomi Ka	mba [eJ-0]		The treatment	of genitourinary	cancers		
11			Satoshi Fuk	ushima [eJ-0]		Skin cancer the	rapy			
12			Taizo Hibi	[eJ-0]		Pediatric Solid	Cancer Therapy	,		
13			Akitake Mul	(asa [eJ-0]		The treatment	of the brain tum	or		
14			Kisato Nosa	ka [eJ-0]		The treatment	of the hematolog	gic malignancies		
15			Natsuo Ohy	a [eJ-0]		Radiotherapy o	f the cancer			
Estim	nated out-of- study time	-class								
Require	ed Textbook ト)	(テキス	We distribu	te in particular the print whic	ch we summarize	ed the point of t	ne lecture in wit	hout appointing it.		
Read	ling List(参考	文献)	 A new c Cancer Clinical Cancer NCCN § 	linical oncology principles & practice of onco Oncology, M.D.Abeloff, J.O. Medicine, Holland-Frei, AAC guideline	ology,V.T. DeVita Armitage, J.E.Nic R • The bi	a, S.Hellman, S.A ederhuber,M.B.K ology of Cancer,	Rosenberg,Lipr (astan,W.G.McK R.A.Weinberg,	bincott Willams &Wilkins enna, Elsevier Garland Science		
Enrollment Conditions(履修										

条件)	
Assessment Methods and Criteria(評価方法・基準)	We evaluate the attendance situation to a lecture, lecturing questions and answers and the lecture understanding degree about the matter which we raised to the [the aim of the class] by reports about a theme shown at being finished.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

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student ar(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	-018-83-2	2025	whole year	Graduate School of Medical Sciences (20190)		1, 2, 3, 4	2	others		
		Co	ourse Title(Tł	neme)(科目名(講義題目))			Instructor(s)(担当教員)		
The	e Theory of (Clinical R	esearch(C10	DLearning of The Theory of Clinical Researc	ר)	YAMAM Hirofur Kanba T	OTO Yutaka, M ni, SUZUKI Mal Tomomi, IDA Sa HAYASHI	1ATSUI Kunihiko, JONO koto, MUKASA Akitake, atoshi, MIYAMOTO Yuji, Mitsuhiro		
				Goals with their ratio(学修成果とそ	の割	合)				
1.Advan drive ••	iced expert l ⋯20%	knowled	ge, skill and r	esearch capability ····45% 2.Profound inte	er-disc	ciplinary kno	wledge ····35	% 4.Social leadership		
Туре о	f Class(授業	の形態)	Lecture							
Teachir	ng Method(挑 法)	受業の方	PowerPoint provided fo	presentation will be usually provided in the r those who are regularly absent for unavoid	e lectu dable	ures. Video le reasons.	ectures or e-lea	rning programs will be		
Course	e Goals(授業	の目的)	To compre	nend necessary knowledge in order to cond	uct in	ntervention st	udies/clinical t	trials		
Course	Learning go 目標)	als(学修	[A level (A 1) To condu 2) To play a 3) To interp 4) To broac (C level (C 1) To comp 2) To comp 3) To comp	水準)] uct scientifically rational and ethical researc role as a project member in a large-scale o oret research findings enough to apply into a len knowledge about clinical researches an :水準)] rehend scientific rationale clinical research rehend methods to conduct clinical researc rehend development and strategies of anti-	h r mult clinica d stan ch cance	ticenter clinio al practice adard treatmo er drugs	cal study ents for maligna	ancies		
Course	Outline(授業	(の概要)	You will lea kinetics/dy treatments including lu malignant b biology will	You will learn about bases of research ethics, epidemiology, biostatistics, study design, and drug kinetics/dynamics needed for clinical trials. And also, you will learn about the biochemical characters and the treatments based on evidence of the clinical trial (EBM; evidence based medicine) in various kinds of cancers, including lung cancer, gastric cancer, colorectal cancer, liver cancer, breast cancer, urinary organ cancer and malignant brain tumor. In addition, the latest topics of the translational study and prospects of the molecular biology will be discussed.						
			-	Details for Individual Classes(各回の)授業[内容)				
No.(回)	Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)		
1			Yamamoto	Yutaka, eEJ-O	Basic of clinical research 1(Clinical trials and observational studies)					
2			Yamamoto	Yutaka, eEJ-O	Basic of clinical research 1(Clinical research using biomarkers)					
3			Matsui Kun	ihiko, eEJ-O	Details of ethical guideline for clinical research					
4			Jono Hirofu	mi, eEJ-O	Basics of Pharmacokinetics/Pharmacodynamics					
5			Jono Hirofu	mi, eEJ-O	Clinical Application of Pharmacokinetics/Pharmacodynamics					
6			Yutaka Yam	amoto, eEJ-O	Design and Assessment of clinical trailas					
7			Makoto Suz	zuki, eE-O	Clinical trials on lung cancer (1)					
8			Makoto Suz	zuki, eE-O	Clinical trials on lung cancer (2)					
9			Satoshi Ida,	eE-O	Clinical trials on gastric cancer					
10			Yuji Miyama	aoto, eE-O	Clinical trials on colorectal cancer			cer		
11			Hiromitsu H	layashi, eE-O	Clin	nical trials on	hepatic cell ca	arcinoma		
12			Yutaka Yam	amoto, eEJ-O	Clin	nical trials on	breast cancer	(1)		
13			Yutaka Yam	amoto, eEJ-O	Clin	nical Trials or	n breast cancer	(2)		
14			Tomomi Ka	mba, eEJ-O	Clin	nical Trials or	urinary organ	cancer		
15			Akitake Mu	Akitake Mukasa, eEJ-O Clinical Trials on malignant brain tumor				in tumor		
Estim	nated out-of- study time	class	60 hours of self-learning (out-of-class study) is recommended in addition to 30-hours lecture (2 hours x 15 times).							
Require	ed Textbook ト)	(テキス								
Ean Brea Che Reading List(参考文献) Ame Clin			Eanuel EJ. e Breast Can Cheson BD Response C Leukemia. J American S Clinical (NC	Eanuel EJ. et al. The Oxford Textbook of Clinical Research Ethics. Oxford University Press., 2008 Breast Cancer, Molecular Genetics, Pathogenesis, and Therapeurics" edited by Bowcock, HUMANA PRESS, 2004 Cheson BD, et al. Revised recommendations of the International Working Group for Diagnosis, Standardization of Response Criteria, Treatment Outcomes, and Reporting Standards for Therapeutic Trials in Acute Myeloid Leukemia. J Clin Oncol. 2003 Dec 15;21(24):4642-9. American Society of Clinical Oncology Clinical Practice Guideline, National Comprehensive Cancer Network Clinical (NCCN) Guidelines for the Treatment of Cancer by Site, which are available on the internet						
Enrollm	ent Conditio 条件)	ons(履修								
条件) Assessment Methods and Criteria(評価方法・基準)			We evaluate about the n Grading wil will be evalue to 100. Fina discussions	e the attendance at a lecture, lecturing que natter which we raised to the [the aim of the l be based on the student's understanding of uated on the basis of papers and quizzes re al grades will be based on the average score	stions class of the lated of th	and answers by reports a course subje to the topics he papers and	s and the lectur about a theme cct matter. The dealt with in c l quizzes as we	e understanding degree shown at being finished. students' understanding lass to be scored from 0 Il as participation in class		

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 (Each instructor has experiences as a primary investigator and a collaborator of clinical reserch projects, or a member of review boards.)								
Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student ar(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
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RDM7	-156-99-1	2025	whole year	Graduate School of Medical Sciences (25240)	1	1, 2, 3, 4	2	others	
Course Title(Theme)(科目名(講義題目))							Instructor(s)(担当教員)	
		Traini	ng of biostat	istics in clinical study(C11)		томі	ZAWA Kazuhito	, HASHIMOTO Kenyu	
				Goals with their ratio(学修成果とそ	の割る				
1.Advan and abi	nced expert l lity to take ir	nowled nitiative a	ge, skill and r action ••••10	esearch capability ····50% 2.Profound inte 0% 4.Social leadership drive ····10%	er-disc	ciplinary kno	wledge ····30	% 3.Global perspective	
Туре о	of Class(授業)	の形態)	Lecture and	d Seminar					
Teachir	ng Method(挑 法)	受業の方	Lecture (Q	& A style), Practical use of PC & statistical sc	oftwar	e (EZR).			
Course	e Goals(授業)	の目的)	Knowledge study. There biological e	about basic statistical methods is important efore, the aim of this course is to learn abou experiments and/or clinical studies.	t for re t how	esearchers to researchers	plan and exec use statistical	cute biological/clinical tests through carrying out	
Course	Learning go 目標)	als(学修	[A level (A Understand multivariate [C level (C	水準)】 ling study design. Performing basic statistica analysis etc). :水準)】	al test	s (comparing	g two groups, tł	nree or more groups,	
Cauraa	Outline//搭型		Understand In this class	ling basic statistical theory. s, students will learn about study design, bas	ic sta	tistical theor	ies, and practic	ce basic tests using	
Course	Outime(按未	の城安)	statistical so	oftware "EZR".				-	
			-	Details for Individual Classes(各回の	授業内	内容)			
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1			HASHIMOT	O Kenyu, 【eJ-0】	Data	a representa	tion		
2			HASHIMOTO Kenyu, [eJ-0] Dataset construction						
3			HASHIMOTO Kenyu, [eJ-0] Comparing two groups						
4			HASHIMOT	O Kenyu, 【eJ-0】	Comparing three or more groups				
5			HASHIMOT	HASHIMOTO Kenyu, [eJ-0] Correlation and simple linear regression				egression	
6			HASHIMOT	O Kenyu, 【eJ-0】	Contingency table analysis				
7			HASHIMOT	O Kenyu, 【eJ-0】	Fundamentals of statistical inference				
8			HASHIMOT	O Kenyu, 【eJ-0】	Stat	Statistical design 1			
9			HASHIMOT	O Kenyu, 【eJ-0】	Stat	Statistical design 2			
10			HASHIMOT	O Kenyu, 【eJ-0】	Sam	ple size dete	ermination		
11			HASHIMOT	O Kenyu, 【eJ-0】	Mul	tivariate ana	lysis 1		
12			HASHIMOT	O Kenyu, 【eJ-0】	Mul	tivariate ana	lysis 2		
13			HASHIMOT	O Kenyu, 【eJ-0】	Mul	tivariate ana	lysis 3		
14			HASHIMOT	O Kenyu, 【eJ-0】	Surv	vival analysis	1		
15			HASHIMOT	O Kenyu, 【eJ-0】	Surv	vival analysis	2		
Estim	nated out-of- study time	class							
Require	ed Textbook ト)	(テキス	Handout / sample data for statistical analysis						
Read	ling List(参考	文献)	Indicated in each lecture.						
Enrollm	ent Conditic 条件)	ons(履修	Bring own personal computer for statistical practice (Windows).						
Assess Criter	ment Metho ia(評価方法 ·	ds and 基準)	Attendance at lectures, Q&A, and score of reports.						
Lar Instr	nguage Usec ruction(使用	l in 言語)	Japanese						
Tex Languag	ktbook/Mate ge(教科書・う 語)	rial 資料の言	Japanese						
Course Work E を	Based on P xperience(実 活かした授業	ractical 醫務経験 ()	Not applica	ble					

Course 目ナ	Coding(科 ンバー)	Year/Se m(年)	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	B Eligible Student Year(開講年次) Credits(単位 Weekday and F 数) 日・時降		Weekday and Period(曜 日・時限)		
RDM7	M7-157-99-1 2025whole year		vhole year	Graduate School of Medical Sciences (25250)	1, 2, 3	3, 4	2	others	
		Co	urse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)	
	Overvi	ew of cli	Inical study(Overview of clilnical study(C12))	TS Ha MA Azı	SUJITA ajime, k ATSUI k usa, Mo	Kenichi, SAKA((AWAGUCHI Ta (unihiko, NAKA prinaga Jiyun, Y Kisato, NAGA	GAMI Takuro, YAMAZAKI ikayoshi, SANUKI Tetsuji, MURA Taishi, MIYASHITA AMASAKI Akira, NOSAKA AOKA Katsuya	
				Goals with their ratio(学修成果とそ	の割合)				
1.Advan and abil	ced expert l ity to take ir	knowledg nitiative a	ge, skill and r ction ・・・・5%	esearch capability ····80% 2.Profound inte 6 4.Social leadership drive ····5%	r-disciplina	ary kno	wledge ····10	% 3.Global perspective	
Туре о	f Class(授業	の形態)	Lecture						
Teachir	ng Method(挑 法)	受業の方	Face-to-fac	e or e-learning lectures using handouts.					
Course	e Goals(授業	の目的)	The purpos knowledge	e of this lecture is to provide young researcl necessary to plan and conduct their researc	ners who ar h.	re abou	it to start clinic	al research with the basic	
Course	Learning go 目標)	als(学修	[A level (A Acquire suf framework o constructio [C level (C Acquire ess framework o constructio	【A level (A水準)】 Acquire sufficient knowledge to plan and conduct clinical research, in addition to concepts related to the framework of observational and interventional research, research ethics, statistics, regulations, practices, big data construction and utilization, intellectual property, etc. 【C level (C水準)】 Acquire essential knowledge to plan and conduct clinical research, in addition to concepts related to the framework of observational and interventional research, research ethics, statistics, regulations, practices, big data construction and utilization, intellectual property etc					
Course	Outline(授業	(の概要)	The course study desig knowledge	provides an overview of observational and i n, regulations and practices, and big data co about intellectual property.	nterventior onstruction	n resea and ut	rch, research e ilization, as we	thics, statistical concepts, Il as the essence of	
				Details for Individual Classes(各回の	授業内容)				
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1			SAKAGAMI	Takuro, [eJ-O]	Introduction to clinical research: Translational research(Active Learning)			h: Translational	
2			YAMASAKI	AMASAKI Akira, [eJ-O] Research Ethics: Protecting par research			rticipants in clinical		
3			MORINAGA	Jun, [eJ-O]	Statistical principles in clinical research			research	
4			MORINAGA	Introduction of study design in clinical research					
5			MIYASHITA	Understanding guidelines and laws in clinical research					
6			MIYASHITA	Introduction of protocol writing in clinical research					
7			MATSUI Ku	Promotion and practice of observational study					
8			TSUJITA Ke	nichi, 【eJ-O】	Promotion and practice of interventional study				
9			NAKAMURA	Taishi, 【eJ-O】	Construction and application of medical big data				
10			NOSAKA Ki	sato, 【eJ-O】	Clinical T	rial Re	gulations and P	roject Management	
11	12/1	1	Thu. 4th pe	riod. SANUKI Tetsuji, 【eJ-L】	Managem	nent of	medical device	e development	
12	12/1	8	NAGAOKA I	Katsuya, 【eJ-L】	Potential	for AI A	Applications in	Clinical Research	
13			KAWAGUCI	H Takayoshi, 【eJ-O】	Importan developm	ce of ir nent	itellectual prop	erty in clinical	
14	01/1	5	Thu. 3th pe	riod. YAMAZAKI Hajime, 【eJ-L】	Practice of Learning)	ofstudy	/ design in clini	cal research 1 (Active	
15	01/1	5	Thu. 4th pe	riod. YAMAZAKI Hajime, 【eJ-L】	Practice of Learning)	ofstudy	/ design in clini	cal research 2 (Active	
Estim	ated out-of- study time	class							
Require	ed Textbook ト)	(テキス	Textbooks a	are not specified.					
Read	ing List(参考	文献)	Provided in	the lectures.					
Enrollm	ent Conditio 条件)	ons(履修	No prerequ	isite.					
Assess Criter	ment Metho ia(評価方法	ds and 基準)	The level of related to the test of test o	understanding of the lectures will be evaluated and lectures.	ated by exa	mining	the reports an	d scores in quizzes	
Lar Instr	nguage Used uction(使用)	t in 言語)	Japanese						
Tex Languag	tbook/Mate ge(教科書・j 	erial 資料の言	Japanese						
Course Work E	Based on P xperience(身	ractical 《務経験	Applicable						

Academic Year 2025, D1 Medicine & Life Science Seminar [eE-L]

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

N⁰	Schedule	Talker	Title	Affiliation	Inviter
1	May 7 (Wed)	Yosuke Togashi	New insghits from tumor- infilitrating lymphocyte analyses	Department of Tumor Microenvironment, Faculty of Medicine, Dentistry and Pharmaceutical Sciences (Medicine), Okayama University	Cell Pathology
2	May 14 (Wed)	Yasuhiro Takashima	Human pluripotent stem cells and early development	Department of Life Science Frontiers Center for iPS Cell Research and Application, Kyoto University/ Professor	Cell Modulation
3	May 21 (Wed)	Yumiko Yoshimura	Experience-dependent development of visual cortical function	Division of Visual Information Processing, National Institute for Physiological Sciences,/Professor	Sensory and Cognitive Physiology
4	Jun 4 (Wed)	Hideyuki Saya	Research aimed at implementation for intractable diseases	Oncology Innovation Center, Fujita Health University/ Professor (Director)	Molecular Genetics
5	Jun 11 (Wed)	Koki Hasegawa	Targeted radiotherapy in nuclear medicine - Clinical Advances and Perspectives	Department of Radiological Sciences, School of Health Sciences, Fukushima Medical University School of Medicine. Professor	Radioisotope and Tumor Pathobiology
6	Jun 18 (Wed)	Takero Shindo	Optimizing transplant immunity against ATL	Hiroshima University Research Institute for Radiation Biology and Medicine, Next Generation Development of Genome and Cellular Therapy Program/Designated Professor	Hematopoiesis
7	Aug 27 (Wed)	Makoto Arita	Biology of LipoQuality and the Lipidome Atlas	Professor, Keio University Faculty of Pharmacy Team Leader, RIKEN Center for Integrative Medical Sciences	Microbiology
8	Sep 3 (Wed)	Shusaku Uchida	Molecular and neural mechanisms underlying psychosocial stress resilience and susceptibility	Department of Integrative Anatomy, Nagoya City University Graduate School of Medical Sciences, Associate Professor	Neuropsychiatry
9	Oct 15 (Wed)	Itaru Imayoshi	Analysis of neural stem cell regulatory mechanisms using optogenetics	Professor, Laboratory of Brain Development and Regeneration, Graduate School of Biostudies, Kyoto University	Molecular Brain Science
10	Nov 5 (Wed)	Nobuhiko Ohno	Frontiers of 3D Microstructure Research by Volume Electron Microscopy	Division of Histology, Jichi Medical University, School of Medicine	Histology
11	Nov 26 (Wed)	Kenya Honda	Development of microbiota- based therapeutics by unraveling the functional roles of the gut microbiota	Keio University School of Medicine Department of Microbiology and Immunology	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/en/medgrad/gakunai/seminar/)

*** Each seminar will be held in English ***

*Only those who have registered for D1 Seminar can take the e-learning course.

However, some seminar sessions may not be recorded due to the content of the seminar or the instructor's availability.

An announcement will be made if a lecture will not be recorded. For details, please contact the Student Affairs Office.

*Face-to-face seminars can be taken by students who have not registered for the course.

大学院医学教育部「医学・生命科学セミナー」レポート

(「D1 Medicine and Life science Seminar」Report)

学生番号		学年	
Registered number		Grade	
名前		所属分野	
Name		Division	
講演演題名			
talk			
講師 Talker			
講演日時 Date			
レポート:以下に1	200~2000字程度のレポートを言	武	
A body of essay:	Fill this A4 sheet with 250-500 wor	ds	

D2 Learning from Experienced Doctors Seminar (Elective 2 credits)

Subject code 20230

Academic Year 2025, D2 Learning from Experienced Doctors Seminar [eJ-L]

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

N⁰	Schedule	Talker	Title	Affiliation	Inviter
1	Apr 16 (Wed)	Ichiro Manabe	Innate stress memory in heart failure and multimorbidity	Department of System Medicine, Graduate School of Medicine, Chiba University	Molecular Genetics
2	May 15 (Thu)	Hidetaka Ota	The Initiatives of Akita University in Advanced Research on Elderly Medical Care	Advanced Research Center for Geriatric and Gerontology, Akita University	Cell Pathology
3	Jul 2 (Wed)	Tadafumi Kato	Tackling the mystery of bipolar disorder	Chief Professor, Department of Psychiatry and Behavioral Science, Juntendo University Graduate School of Medicine	Molecular Brain Science
4	Jul 16 (Wed)	Takahiro Ochiya	Strategies and Current Regulations for Medical Applications of Extracellular Vesicles	Institute of Medical Science, Tokyo Medical University	Gastroenterology and Hepatology
5	Jul 30 (Wed)	Koji Shiraishi	The research and clinical practice in male infertility treatment	Department of Urology, Yamaguchi University School of Medicine	Histology
6	Sep 10 (Wed)	Takuya Matsushita	The advance of treatments for intractable neurological diseases	Department of Neurology, Kochi Medical School, Kochi University/Professor	Cell Modulation
7	Sep 19 (Fri)	Akihiko Takahashi	Supporting the lives of children in medical care, their siblings, and their families	Director of Hibari Clinic Chairman of Certified Non-Profit Organization Urizun	Hematopoiesis
8	Oct 8 (Wed)	Kazuki Harada	Head trauma: a review from the perspective of the forensic neuropathologist	Department of Forensic Medicine, Fukushima Medical University School of Medicine Professor	Disaster and Critical Care Medicine
9	Oct 29 (Wed)	Shotaro Hagiwara	Status of Polypharmacy and Potentially Inappropriate Prescription in Older Adults	Department of Hematology, Tsukuba University Hospital Mito Clinical Education and Training Center. Professor	Radioisotope and Tumor Pathobiology

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/en/medgrad/gakunai/seminar/)

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

*Only those who have registered for D2 Seminar can take the e-learning course.

However, some seminar sessions may not be recorded due to the content of the seminar or the instructor's availability.

An announcement will be made if a lecture will not be recorded. For details, please contact the Student Affairs Office.

*Face-to-face seminars can be taken by students who have not registered for the course.

大学院医学教育部「名医に学ぶセミナー」レポート

(「D2Learning from Experienced Doctors」Report)

学生番号 Registered	笄
number	Grade
名前	所属分野
Name	Division
講演演題名	
Title of talk	
講 師 Talker	
講演日時 Date	
レポート:以下に1200~2000字程度のレポートを A body of essay: Fill this A4 sheet with 250-500 w	記載 Dords

Academic Year 2025, D5: International Biomedical Research Seminars

•Place: Meeting Lounge, IRCMS 1F or online

• Time & Date: From 16:00 (usually on Wednesday; may be adjusted due to time difference)

The "D5 International Biomedical Research Seminars" course will be offered by International Research Center for Medical Sciences (IRCMS). It will run from April 2025 to March 2026, with lectures given by scientists who are affiliated with IRCMS or in collaboration with researchers at IRCMS. The lectures will be given 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	Research Field/The title for the lecture	Title / Affiliation
1.	May (onsite)	Kazu Kikuchi	Cardiomyocyte, Live imagind of tissue homeosasis and regeneration	Director of Department of Cardiac Regeneration Biology, National Cerebral and Cardiovascular Center, Japan
2.	June (online)	Els Mansell	Hematopoietic Cell, Cellular Senescence	Assistant Professor, Erasmus MC, Hematology the Netherlands
3.	July (onsite)	Anne Goriely	Genetics, Development, Mutations	Associate Professor of Human Genetics, Medical Sciences Division, University of Oxford, UK
4.	August (onsite)	Yusuke Nasu	Lactate, Biosensors, Fluorescent proteins, Protein Engineering	Assistant Research Fellow, Institute of Biological Chemistry, Academia Sinica, Taiwan
5.	September (online)	Cristian Bellodi	RNA, Stem Cell Biology	Professor, Biotech Research & Innovation Centre, University of Copenhagen, Denmark
6.	October (onsite)	Mikiko Tanaka	Molecular genetic mechanisms	Professor, Department of Life Science and Technology, Institute of Science Tokyo, Japan
7.	November (onsite)	Jun Nagai	Neurophysiology, General neuroscience, Neurochemistry	PI, Center for Brain Science, RIKEN, Japan
8.	December (online)	Andres Hidalgo	Inflammation, Neutrophils, Platelets, HSC	Professor, Department of Immunobiology, Yale University School of Medicine, USA
9.	January (onsite)	Naoyuki Matsumoto	Neuroscience	Associate Research Scientist, Department of Neuroscience, Yale University School of Medicine, USA
10.	February (onsite)	Yosuke Kurashima	Experimental pathology, Gastroenterology, Immunology	Associate Professor, Institute for Advanced Academic Research, Chiba University, Japan
11.	March (online)	Daniel Lacorazza	HSC, LSC, Leukemias	Professor, Department of Pathology & Immunology, Baylor College of Medicine, USA

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 Seminars"

Write 2 essays based on 2 talks chosen from the seminar "D5: International Biomedical Research Seminars". Length of the essays should be 250-500 words. "D5: International Biomedical Research Seminars" requires students to attend more than 10 lectures as well as to submit at least 2 reports 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 School of Medical Sciences, 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 250-50	0 words		

Approval of Credits of Elective Subject in Doctoral Course,

creditD3 Medicine and Life Science Training (Subject code 22220)

1. In the wake of realization of doctoral course lessons in the graduate school, presentations at academic meetings, such as academic conferences and lecture meetings, under the sponsorship of academic societies and universities, but not under the sponsorship of private organizations will be approved as credits.

2. "D3 Medicine and Life Science Training" is an elective subject in the doctoral course and up to a maximum of 2 credits can be awarded from presentations at academic conferences. (Refer to the list of lecture course/subject and credit in the syllabus.)

3. The criteria for credit approval are stipulated below. In addition, academic meetings that meet the above criteria such as academic conferences, lecture meetings and symposiums, will be judged by the committee of the postgraduate education.

- 1) In international academic meetings such as conferences, meetings, and symposiums, which are held domestically and abroad, or in national conferences and study meetings, which are held domestically, attendance as a leading presenter of a poster or an oral presentation as the first author of the abstract will be approved for a maximum of 2 credits.
- 2) In local academic meetings, such as conferences, lecture meetings and seminars, leading a poster or oral presentation as the first author of the abstract will be approved for a maximum of 1 credit.

For relation of the term of academic meetings and the number of credits to be approved, refer to the detailed regulations as shown in the next page.

4. How to apply for credits and the process of approving credits (The stipulations of this matter and the necessary forms are published on the website for the Graduate School of Medical Sciences and can be downloaded from the website).

- 1) Graduate students should record and submit the necessary information. Record in the prescribed application form (Refer to Format 1) the names of academic meetings, the term of the meetings and reports. Submit the written form to the Educational Affairs Planning Section (Ext. 5029) with 1) a certificate of participation (a copy is acceptable), 2) a copy of the program in which the presentation is published in and 3) a copy of the abstract that the student has published as a leading presenter. In principle, submit the forms within the same academic year as conference participation. The application form will be examined by the committee of the postgraduate education (generally held on every third Wednesday).
- 2) The committee of the postgraduate education will review all submissions and calculate credit based on the detailed regulations (Attachment 1). The credits will be calculated, and when they reach 2 or more, they will be given to SOSEKI by the Educational Affairs Planning Section. Students need to view SOSEKI to check their acquired credits. If the number of credits doesn't reach 2, it will not be approved (0 credits).

- 3) For the credit application, "Kumamoto University" shall be indicated as your affiliation. If your affiliation is not Kumamoto University, your academic supervisor shall be included in your co-speakers.
- 4) A credit application would be accepted by attending a meeting online as well, only when the school educational committee accepts it. A participant certification of such meeting or an approval from the academic supervisor can be submitted for the required submission, 1)-1).

The Detailed Regulations for Approving the Number of Credits in D3 Medicine and Life Science Training

In a faculty meeting on May 28, 2008, it was approved that beginning from the academic year of 2009, students can acquire up to a maximum of 2 credits as D3 Medicine and Life Science Training (which is an elective subject in the doctoral course) by participating in academic meetings as a leading presenter. The detailed regulations of credit approval are stipulated below.

1. Presentations at academic meetings given in 2008 by students who entered in the academic year of 2008 can be approved for credit. However, the application form and the documents that show proof of the students' presentations must be submitted within the 2008 academic year.

2. The relation between the term of academic meetings and the number of credits to be approved is based on the following criteria.

1) The maximum credits will be given for participation in three (3) day academic meetings. "Riron" lecture-style classes, are lecture courses in a subject that consist of fifteen (15) 90-minute sessions (32.5 hours in total). These are worth 2 credits. Academic meetings are generally held from 8 a.m. to 6 p.m. It can be considered that three days participation in academic meetings is equivalent to about thirty (30) hours of study in a regular class.

2) An academic meeting, which is held for half a day should be counted one sixth (1/6) of one credit. For example, one third (1/3) of the stipulated maximum credits should be given by an academic meeting held for one (1) day, a half (1/2) for one and a half $(1 \ 1/2)$ days and two thirds (2/3) for two (2) days.

3) Specific examples of calculating credits:

When a student gives a presentation as the leading presenter at international meetings or domestic national academic meetings held for three days or more, 2 credits should be given. When meetings are held for one day, two thirds (2/3) of one credit will be given, when they are held for one and a half days, one (1) credit should be given, and when they are held for two days, four thirds (4/3) should be given.

When a student gives a presentation as the leading presenter at local academic meetings held for two days, two thirds (2/3) of one credit should be given, when meetings are held for one day, one third (1/3) of one credit should be given and when they are held for half a day, one sixth (1/6) of one credit should be given.

3. When the number of days a student participate in does not match the stipulations above, credits to be awarded will be decided, after deliberations, by the committee of the postgraduate education.

Application Form for Credits of D3 Medicine and Life Science Training: (Presentations at academic meetings)

	App	lication date:	(year/month/day)
Name:	Year	Student number:	Affiliation :
Course name (if applicable)	:	Phone number:	
E-mail address:			
Name of academic meeting	:		
Date of meeting (y/m/d):	~	City and venue of	meeting:
Date when the applicant par	rticipated in the	meeting(y/m/d):	∼ (days)
Presenters' names (all):			
Title of the presentation:			(circle one) oral poster
The number of credits to be	applied for app	proval	
(Refer to the detailed regula	ations in Attach	ment 1 about how to ca	lculate): credits
Report about what you have	e learned throug	sh participating in the a	cademic meeting (Write 200 words or
more below.)			

Submit 1) a certificate of participation in the academic meeting (a copy is acceptable), 2) a copy of the program in which the presentation is published in, 3) a copy of the abstract that the student has published as a leading presenter in written form together with this application form to Student Affairs Section. (Screening for approval of credits will be conducted in the committee of the postgraduate education, which is held on every third Wednesday.)

If you have lost the participant certification of the meeting to submit or the meeting was held online, you shall submit Form 2. "Appeal for D3 Medicine and Life Science Training (Conference Presentation)"

(Format 2) Appeal for D3 Medicine and Life Science Training (Conference Presentation)

Student ID No.:

Affiliation:

Name (hand-writing):

Academic supervisor (hand-writing):

Name of Conference:		
Appeak:		

Practice (Jissen) I, II · Practice (Jissen) III Timetable Code List

Please refer to the URL below for further details of "Departmental Course Practice (Jissen) I, II • Practice (Jissen) III". http://syllabus.kumamoto-u.ac.jp/

Field	_	Subject	Practice I	Practice II	Field		Subject	Practice I	Practice II
	1	Anatomy	20380	21190		50	Urology	22820	22950
	2	Histology	20280	21090		51	Ophthalmology	22830	22960
	3	Sensory and Cognitive Physiology	20390	21200		52	Otolaryngology-Head and Neck Surgery	22840	22970
	4	Molecular Physiology	20250	21060	Surgery	53	Oral and Maxillofacial Surgery	22860	22990
	5	Molecular and Medical Pharmacology	26055	26056		54	Dermatology and Plastic Surgery	22570	22690
	6	Medical Biochemistry	20500	21310		55	Anesthesiology	22870	23000
	7	Molecular Genetics	20240	21050		56	International Medical Cooperation	20950	21760
Pasia	8	Pathology and Experimental Medicine				57	Molecular Cell Biology	22480	22600
Medicine	9	Cell Pathology	20510	21320		58	Kidney Development	22490	22610
medicine	10	Microbiology	20480	21290		59	Brain Morphogenesis	22500	22620
	11	Immunology	20290	21100	T	60	Cell Modulation	22510	22630
	12	Molecular Brain Science	25070	25080	Institute of Molecular	61	Cell Maintenance	22520	22640
	13	Molecular Biology of Aging and Longevity	25260	25270	Embryology and	62	Cell Differentiation	22530	22650
	14	Lifelong Health Education	25860	25870	Genetics	63	Stem Cell Biology	22550	22670
	15	Medical Oncology and Translational Research	22890	23020		64	Medical Cell Biology	22560	22680
	16	Neuroscience for Metabolic Control	26053	26054		65	Chromosome Biology	25190	25200
	17	Medical Education	26059	26060		66	Muscle Development and Regeneration	25690	25700
	18	Public Health	23060	23070		67	Trophoblast Research	26057	26058
Environmental	19	Forensic Medicine	21010	21820		68	Hematopoiesis	25300	25310
and Socio	20	Bioethics	21020	21830		69	Infection and Hematopoiesis	25320	25330
Medical Sciences	21	Clinical Ethics	21040	21850	Joint Research	70	Infection and Immunity	25340	25350
	22	Clinical Psychology	21030	21840	Human	71	AIDS Therapeutics	25360	25370
	23	Regulatory Science	23040	23050	Retrovirus	72	Vaccine	25380	25390
	24	Respiratory Medicine	22790	22920	Infection	73	Genomics and Transcriptomics	25400	25410
	25	Cardiology	22800	22930		74	Molecular Virology & Genetics	25750	25760
	26	Endocrinology and Metabolism	20700	21510		75	Virology and Pathology	26000	26010
	27	Nephrology	20720	21530	Institute of Resource	76	Reproductive Engineering	20370	21180
	28	Gastroenterology and Hepatology	20690	21500	Development And	77	Disease Epigenetics	25560	25570
	29	Hematology, Rheumatology and Infectious Disease	25130	25140	Anarysis	78	Radioisotope and Tumor Pathobiology	26061	26062
	30	Neurology	25420	25430		80	Stem Cell Stress	25440	25450
	31	Pediatrics	20740	21550		81	Transcriptional Regulation in Leukemogenesis	25460	25470
	32	Diagnostic Medicine	23080	23090	Teter of a 1	82	Developmental Morphogenesis	25480	25490
Internal Medicine	33	Diagnostic Radiology	20630	21440	Research Center for	83	Multi-dimensional Imaging	25520	25530
and Pediatrics	34	Radiation Oncology	20620	21430	Medical Sciences	84	Proteostasis in Stem Cell	25900	25910
	35	Neuropsychiatry	22810	22940		85	Developmental Cardiology	25920	25930
	36	Disaster and Critical Care Medicine	25960	25970		86	Chromatin Organization in Immune Cell Development	25940	25950
	37	General Medicine and Clinical Epidemiology	25980	25990		87	Epigenetic Inheritance	26063	26064
	38	Health Care Science	21000	21810		89	Metabolomics practice II		21860
	39	Medical Information Sciences	20660	21470		90	practice II		21870
	40	Diagnostic Pathology	25540	25550			-		practice
	41	Physiological Function Assessment	22230	22240		91	Diagnostic Image Analysis practice III		21880
	42	Advanced Cardiovascular Medicine	22730	22750		92	Surgocal therapeutics for Cancer practice	Ш	21890
	43	Gastroenterological Surgery	20870	21680		93	Radiation Oncology practice III		21900
	44	Thoracic Surgery and Breast Surgery	25880	25890		94	Cancer Chemotherapy practice III		21910
Supreme	45	Cardiovascular Surgery	20860	21670		95	Paliative Care practice III		21920
Surgery	46	Pediatric Surgery and Transplantation	22880	23010		96	Clinical metabolic informatics practice III		21930
	47	Neurosurgery	20920	21730					
	48	Orthopaedic Surgery	22850	22980					
	49	Obstetrics and Gynecology	22580	22700					

Course Work subject

(Medical Experiment Course)

[Subject code : 10170 (Master's Elective Subject)] [Subject code : 20200 (Doctoral Compulsory Subject)] *Note that the codes are different for master's and doctoral students. Academic Year 2025 Graduate School's Medical Experiment Course

				Location	: Lect	ure Roo	m 2(Medical Education & Library Building 3F)
Date			AM				PM
April 7	1	8:45 ~ 10:15	Introduction to recombinant DNA to [eEJ-L] (Molecular Genetics : TERA	echnique ADA Kazutoyo)	3	13:15 ~ 14:45	Fundamentals and Applications of PCR [eEJ-L] (Medical Biochemistry : SATO Yoshifumi)
(Mon.)	2	10:30 ~ 12:00	Gene Trasfer Technique 【eEJ-L】 (Molecular Physiology : Cl	HUJO Takeshi)	4	15:00 ~ 16:30	Practice and Guidance for Biological Laboratory Safety [eEJ-L] (Microbiology: TSUTSUKI Hiroyasu)
April8	5	8:45 ~ 10:15	Cell Imaging and Image Analysis 【 (Chromosome Biology: SH	(eEJ-L] IMADA Ryuki)	6	13:15 ~ 14:45	Analysis of Transcriptional Regulation [eEJ-L] (:Molecular and Medical Pharmacology KANAMORI Volei)
(Tue.)		10:30 ~ 12:00			7	15:00 ~ 16:30	Pharmacokinetics [eEJ-L] (Pharmacology and Therapeutics : SARUWATARI Jyunji)
April 9	8	8:45 ~ 10:15	Production of polyclonal and monoc [eEJ-L] (Immunolog	clonal antibodies y : IRIE Atsushi)		13:15 ~ 14:45	
(Wed.)	9	10:30 ~ 12:00	How to use ChIP-Atlas [eEJ-L] (Institute of Resource Dev Analys	velopment and sis: OKI Shinya)		15:00 ~ 16:30	
April 10	10	8:45 ~ 10:15	Immunohistochemistry [eEJ-L] (Tumor Pathology : `	YANO Hiromu)		13:15 ~ 14:45	
(Thu.)	11	10:30 ~ 12:00	Basic Methods in Immunology (e	EJ-L】 : IRIE Atsushi)	12	15:00 ~ 16:30	Proteomics [eEJ-L] (Tumor Genetics and Biology : ARAKI Norie)
April 11	13	8:45 ~ 10:15	Experimental animals and animal E I [eJ-L] (Division of Microbiolog TOR	Experimentations gy and Genetics: (IGOE Daisuke)	15	13:15 ~ 14:45	Analytical methods for intracellular signaling [eEJ+L] (Infection and Hematopoiesis : SUZU Shinya)
(Fri.)	14	10:30 ~ 12:00	Experimental animals and animal E II [eJ-L] (Division of Microbiolog TOR	Experimentations gy and Genetics: IGOE Daisuke)	16	15:00 ~ 16:30	In situ hybridization 【eEJ-L】 (Chromosome Biology: KIKUCHI Koji)
April 14		8:45 ~ 10:15			18	13:15 ~ 14:45	Reproductive Engineering Techniques (Reproductive Engineering: TAKEO Toru)
(Mon.)	17	10:30 ~ 12:00	Introduction to flowcytometry [eE. (Immunology	HL】 r : IRIE Atsushi))		15:00 ~ 16:30	
e-learning only	19		Experiment study and safety con (Environmental Safety Center: Yoshihiro)	ntrol [eEJ-0] YAMAGUCHI			

Developmental Biology and Regenerative Medicine

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E St Year(ligible tudent (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)
RDM7	-024-67-1	2025	whole year	Graduate School of Medical Sciences (22140)	1,	2, 3, 4	2	others
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)
Spec Spe	Special Lecture "Tokuron" on Developmental Biology and Regenerative Medicine I(E1 Special Lecture "Tokuron" on Developmental Biology and Regenerative Medicine I) Special Lecture "Tokuron" on Developmental Biology and Regenerative Medicine I) Yuta, Guojun Sheng, Mizuno Hidenobu							
				Goals with their ratio(学修成果とそ	の割合)		
1.Advar and abi	Advanced expert knowledge, skill and research capability ····40% 2.Profound inter-disciplinary knowledge ····30% 3.Global perspective.							
Туре о	of Class(授業)	の形態)	Lecture					
Teachir	ng Method(挑 法)	受業の方	PowerPoint reports are	will be used in the lectures, and active partic considered for remote students and working	icipatio stude	on in the dis nts. Evalua	scussion is enc tion will be bas	ouraged. E-learning and sed on reports.
Course	e Goals(授業)	の目的)	In this cour organogene pluripotent ectoderm, e regulation t	se, you learn basic aspects of early developn esis, and stem cell biology. Through the cour stem cells and tissue stem cells, the develop endoderm, and mesoderm, the regulatory me hat controls cell differentiation and prolifera	nent of rse, you omenta echanis ation.	tissues and will under I mechanis sms of cellu	d organs, inclust stand the regu sms of organs d lar functions, a	ding in vivo development, latory mechanisms of lerived from the and epigenomic
Course Learning goals(学作 目標) Course Learning goals(学作 日標) Course Learning goals(学作 Course Learning Goals(Course Learning Course Learning Course Learni						he following subjects; (1) n cells, (2) m, (3) Regulatory entiation and llowing subjects; (1) n cells, (2) m, (3) Regulatory entiation and		
Course	Course Outline(授業の概要) Following topics including the most recent progress will be shown and discussed in addition to reading original papers. Stem cells and regenerative medicine Pregnancy and placental development Renal development and regeneration Cerm cell development Body plan of amniotes Development and epigenomic regulation						ition to reading original	
			-	Details for Individual Classes(各回の	授業内領	容)		
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)
1	10/0	2	Thu. 4th pe	riod. Hitoshi Niwa	Self-re	enewal of p	oluripotent ster	n cells
2	10/0	9	Thu. 4th pe	riod. Hitoshi Niwa	Differ	entiation o	f pluripotent st	em cells
3	10/1	6	Thu. 4th pe	riod. Takumi Era	Plurip	otent stem	i cells and tissu	ie stem cells
4	10/2	3	Thu. 4th pe	riod. Takumi Era	Clinic	al applicat	ion of stem cel	ls for human diseases
5	10/3	0	Thu. 4th pe	riod. Hiroaki Okae	Pregn	nancy and p	lacental devel	opment
6	11/0	6	Thu. 4th pe	riod. Hiroaki Okae	Stem	cell-based	pregnancy res	earch
7	11/1	3	Thu. 4th pe	riod. Ryuichi Nishinakamura	Moleo	cular Mech	anism of Kidne	y Development
8	11/2	0	Thu. 4th pe	riod. Kenji Shimamura	Plurip regen	ootent stem erative me	cells for devel dicine of the b	opmental biology and rain
9	11/2	7	Thu. 4th pe	riod. Akira Nakamura	How a the ge	animals dev ermline in f	velop: what we ruit flies, Drosc	can learn from studies of ophila.
10	12/0	4	Thu. 4th pe	riod. Koji Kikuchi	Role o patho	of Wnt sign ologies cau	aling in animal sed by its abno	development and rmalities
11	12/1	1	Thu. 4th pe	riod. Toru Takeo	Biote	chnologies	of germ cells a	and early-stage embryos
12	12/1	8	Thu. 4th pe	riod. Shinya Oki	Regul	lation of sp	atial gene expr	ession
13	12/2	:5	Thu. 4th pe	riod. Yuta Takahashi	Epige devel	nome prog opment	ramming and r	eprogramming during
14	01/0	8	Thu. 4th pe	riod. Guojun Sheng	Amnio extrae	ote body pl embryonic	an: gastrulatio demarcation	n and embryonic-
15	01/1	5	Thu. 4th pe	riod. Hidenobu Mizuno	Const	truction of	functional neu	ronal circuit in the brain
Estim	nated out-of- study time	class	60 hours		<u>.</u>			
Requir	ed Textbook ト)	(テキス	Textbooks a	are not specified, and handouts will be distri	buted.			
Read	ling List(参考	文献)	Essential D	evelopmental Biology, 5th edition by Slack J ntal Biology, 13th edition by Scott Gilbert M	MW.,W lichael	W Norton & Barresi Ox	& CO (ford university	/ press
Enrollm	ent Conditio	ons(履修	Having basic knowledge related to this class					

条件)	Having basic knowledge related to this class
Assessment Methods and Criteria(評価方法・基準)	Grading will be based on the student's understanding of the course subject matter as well as participation in class discussions. The students' understanding will be evaluated on the basis of reports or exams via the LMS e- learning Moodle system. Final grades will be based on the average of the top 10 scores.
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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 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)
RDM7	-025-79-1	2025	whole year	Graduate School of Medical Sciences (22150)		1, 2, 3, 4	2	others
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)
Specia	al Lecture "T	okuron"	on Developn	n Developmental Biology and Regenerative Medicine II(E2) n Developmental Biology and Regenerative Medicine II(E2) Kobayashi, Shunsuke Tanigawa, Takizawa, Joji Watase,Yusuke Ono, Ry				Yuichiro Arima, Rieko nichi Miharada, Akio ke Tanigawa,Hitoshi suke Ono, Ryuki Shimada
Goals with their ratio(学修成果とその割合)								
1.Advan and abil	nced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ••••10	esearch capability ····60% 2.Profound inte 0% 4.Social leadership drive ····5%	r-dis	ciplinary know	wledge ····25	% 3.Global perspective
Туре о	, f Class(授業)	の形態)	Lecture					
Teachir	ng Method(扎	受業の方	PowerPoint	and/or OHP will be used in the lectures, an	d act	tive participat	ion in discussi	on is encouraged.
Course	y Goals(授業	の目的)	Developme developme Furthermor investigatio on embryor mechanism sensory and and problem	ntal and regenerative medicine aims at curin nt and the origin of diseases in order to deve e, this course will up-to-date with the preser ns on replacement of lost cells, tissues or or ic stem cells, tissue stem cells, their propert s of development and repairs of epithelial tis d circulatory organ, tissue injury and restorat ns in transplant medicine.	ng dis elop a nt sta gans cies a ssues ion s	seases by rev a diagnosis a atus of the reg s. In this cours and applicatic s, methodolog surgery, genel	ealing molecul nd treatment fo generation med e, you will obta n on regenerat gies in the rege tic defects and	ar mechanisms of organ or the diseases. licines, the on going ain essential knowledge tive medicine, nerative medicine of their treatments, status
Course	Learning go 目標)	als(学修	[A level (A During atte developmen including th [C level (C	水準)] nding the lectures in this course, students ar ntal biology and specific developmental biol ne liver, lung, heart, nervous tissue, inner ear :水準)]	re ex ogy a and	pected to be and mechanis connective t	familiar with ge sms of diseases issues.	eneral basics of in various organs
Course Outline(授業の概要)			In this cour and tissue s abnormaliti analyses of regeneratio pathophysic heart disea present stal	se, lectures on the following fields will be giv stem cells · properties and application of en es of epithelial cells · damage, repair and m hereditary amyloidosis · development of tre n of skin (recovery of injury) · denervation ology of hematopoietic stem cells · basic an se · pathological analysis and treatment of g tus and problems of liver transplant	ven: idode iecha eatmo n anc id cli gene	• Regenerativ ermal tissue s anisms of tiss ent for hered d reinnervatic inic on vascul tic diseases	ve medicine us tem cells · gro ue reconstitutio itary amyloidos n of the larynx ar neogenesis i tissue and org	ing embryonic stem cells wth, differentiation and on · pathological is · development and · Physiology and · treatment of ischemic gan grafts in general,
			-	Details for Individual Classes(各回の	授業	内容)		
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	of Outline of Cl	ass(内容概略)
1	03/0	9	【1st grade 4th period `] Yuichiro Arima 【eE-0】	Vas	scular develop	oment and path	nological changes
2	03/0	9	5th period	Rieko ASAI 【eE-0】	Car cor	rdiac develop ngenital heart	ment and mole disease	ecular mechanisms of
3	03/1	6	4th period	Norika Liu	Her	matopoiesis a	nd morphoger	nesis
4	03/1	6	5th period	Kenichi Miharada	Ma in f	ternally derive fetal developm	ed factors and nent	regulation of proteostasis
5	03/2	23	4th period	Akio Kobayashi	Cel	llular lineages	during kidney	development
6			[2nd grad Shunsuke T	e] anigawa	Ger bio	neration of ki logy	dney organoids	s based on developmental
7			Jun Hatakey	yama	Bra neu	ain Developm ural stem cells	ent: Origin of ir	ntelligence generated by
8			Jun Hatake	yama	Huı bra	man Brain De ain in utero	velopment: Im	portance of nurturing the
9			Hitoshi TAK	IZAWA	Phy	ysiology of he	matopoietic ste	em cell
10			Hitoshi TAK	IZAWA	Pat	thophysiology	of hematopoie	etic stem cell
11			【3rd grade Joji Watase		Ger	rm cell develo	opment and agi	ing
12			Yusuke Ond)	Dev	velopment an	d regeneration	of skeletal muscle
13			Yusuke Ond)	Pla	sticity in skele	etal muscle	
14			Keiichiro IS	HIGURO	Dev	velopment of	mammalian ge	rm cells
15			Ryuki Shima	ada	Ger	rm cells for re	generative me	dicine
Estim	nated out-of- study time	class						
Require	ed Textbook ト)	(テキス						
Read	ing List(参考	文献)						
Enrollm	ent Conditio 冬件)	ons(履修						
Assess Criter	ment Metho ia(評価方法	ds and · 基準)	Grading wil on the stud the basis of	l be based on active class participation, pap ent's understanding of the course subject m papers and quizzes related to the topics de	er su atter alt w	ummaries, and r. The student vith in class to	l the final repo s' understandir be scored fror	rt. Grading will be based ng will be evaluated on n 0 to 100. Final grades

Assessment Methods and Criteria(評価方法・基準)	will be based on the average score of the papers and quizzes as well as participation in class discussions.
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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)			
RDM7	-026-79-1	2025v	whole year	Graduate School of Medical Sciences (22160)	1	1, 2, 3, 4	2	others			
		Co	ourse Title(Th	neme)(科目名(講義題目))	•		Instructor(s)(担当教員)			
	Specia	al Lectur	e "Tokuron" o	n" on Transplantation immunology(E3) OSHIUMI Hiroyuki, IRIE At Taizou, Takashima			i, IRIE Atsushi, Hibi ashima Ken				
	Goals with their ratio(学修成果とその割合)										
1.Advan and abil	Advanced expert knowledge, skill and research capability ····25% 2.Profound inter-disciplinary knowledge ····25% 3.Global perspective and ability to take initiative action ····25% 4.Social leadership drive ····25%										
Туре о	f Class(授業)	の形態)	Lecture	Lecture							
Teachir	ng Method(挑 法)	受業の方	PowerPoint Extra classe	and/or OHP will be used in the lectures, an s or video lectures are considered for those	d acti who a	ive participat are regularly	tion in the disc absent for una	ussion is encouraged. avoidable reasons.			
Course Goals(授業の目的)			The goals o (1) The mec (2) Allo-anti (3) The stru (4) Basic im (5) Current	f this lecture are to understand the following chanism of rejection in allo-transplantation gens that induce allo-reactivity cture and function of human major histocor munology and clinical immuno-regulation th status and future direction of transplantatio	gs: npatik nerapy n mec	bility comple y to avoid gr dicine	x (HLA) aft-rejection				
Course	Learning go 目標)	als(学修	[A level (A Understand complexes [C level (C	水準)] ling of the mechanisms of rejection in allo-tr and the basics in clinical immuno-regulatior 水準)]	anspla thera	antation, the apy and tran	e structures of r splantation me	najor histocompatibility dicine			
Course	Outline(授業	の概要)	To treat the However, th species, du allogeneic of Among sucl lecture on t will provide lecture on t basic and c	patients, transplantation of the cells, tissue here are structural differences of proteins, lip e to genetic polymorphism. Therefore, follow donor, the recipient immune system is activa n allogeneic antigens, MHC are the stronges he basic and clinical immunology related to the latest information on the issue of clinica he transplantation immunology at the level linical medicine, including recent advances	s, or c pids, a ving tl ted b t in st the m al tran of cell in the	organs obtain and sugars be he transplan by such polyn cimulating all nethodology splantation ls, tissues, ar a research by	ned from donor etween differer tation of a graf norphic molect o-reactive imm to avoid such and regenerati nd organs, from the instructors	rs is broadly carried out. It individuals of the same t obtained from an ules and reject the graft. June response. We will rejection. In addition, we ve medicine. We will the viewpoint of both s.			
				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)			ass(内容概略)			
1			Hiroyuki Os	hiumi eE-JO, eJ-O	Introduction to Innate Immunity						
2			Hiroyuki Os	hiumi eE-J0, eJ-0	Intro	oduction to A	Adaptive Immu	nity			
3	10/2	7	Mon 4th pe	riod, Atsushi Irie	Poly	vmorphism o	f MHC and T ce	ell- activation signals			
4	11/1	0	Mon 4th pe	riod, Atsushi Irie	Recognition of alloantigens by T cells						
5			Hiroyuki Os	hiumi eE-J0, eJ-0	Anti	-Tumor Imm	une Response				
6	12/0	1	Mon 4th pe	riod, Atsushi Irie	Majo	or and minor	^r histocompatik	oility antigens			
7	12/0	8	Mon 4th pe	riod, Atsushi Irie	Imm	une respons	e and dendriti	c cells			
8	12/1	5	Mon 4th pe	riod, Atsushi Irie	Cyto	okine and Ch	nemokine				
9			Hiroyuki Os	hiumi eE-J0, eJ-0	Hum	noral Factors	regulating Imr	nunity			
10	01/0	5	Mon 4th pe	riod, Ken Takashima	Imm	une tolerand	ce				
11			Hiroyuki Os	hiumi, eE-JO, eJ-O	Host	t immune res	sponses to graf	İts			
12			Hiroyuki Os	hiumi eE-JO, eJ-O	Imm	une senesce	ence and Inflam	nmaging			
13			Ken Takash	ima eE-JO, eJ-O	Imm	unosuppres	sant and transp	olantation			
14			Taizo Hibi e	E-J0, eJ-0	Tran	nsplantation	in Japan and th	ne world			
15			Taizo Hibi e	E-JO, eJ-O	Live	r transplant i	from living don	or			
Estim	nated out-of- study time	class									
Require	ed Textbook ト)	(テキス	Textbooks a	are not specified, and handouts will be distri	buted	J.					
Read	ing List(参考	文献)	 "The Imm "Janeway" Science, Ta " A histor 	une System" by Peter Parham. Garland Publ 's Immunobiology Seventh Edition" by Ken ylor & Francis Group LLC. New York and Abi ry of transplantation immunology" (Leslie B	ishing neth N ngdoi rent)	g Inc. New Yo Murphy, Pau n, 2008. Academic Pi	ork and Londor I Travers, Mark ress 1997	ı, 2004 Walport. Garland			
Enrollm	ent Conditic 条件)	ons(履修	lt is recomn	nended for you to read a syllabus and indica	ted re	ecommende	d readings in a	dvance.			
Assess Criter	ment Metho ia(評価方法・	ds and 基準)	Achievemer will be spec matter. The to the topic best 10 sco	nt of the Objectives will be evaluated by acti ified after the lectures. Grading will be base students' understanding will be evaluated o s dealt with in the class to be scored from 0 res of the reports and brief examinations as	ve cla d on t on the to 10 well a	ass participat the student's basis of the 00. Final grac as the partici	tion and the rep understanding reports and br les will be base pation in class	ports of which the theme of the course subject ief examinations related of on the average of the discussions.			
Lar Instr	nguage Usec ruction(使用)	l in 言語)	Japanese ar	nd English							
Textbook/Material			Combinatio	n of Japanese and English							

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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Y	Eligible Student Year(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)			
RDM7	027-81-1	2025\	whole year	Graduate School of Medical Sciences (22170)	Γ	1, 2, 3, 4	2	others			
Course Title(Theme)(科目名(講義題目))							Instructor(s)(担当教員)			
		Spec	ial Lecture "	Fokuron" on Bioethics(E4)			KADOOK	A Yasuhiro			
	Goals with their ratio(学修成果とその割合)										
1.Advan and abil	I.Advanced expert knowledge, skill and research capability ····25% 2.Profound inter-disciplinary knowledge ····50% 3.Global perspective and ability to take initiative action ····25%										
Туре о	f Class(授業)	の形態)	Lecture	Lecture							
Teachir	ng Method(挑 法)	受業の方	E-learning s and "Step-u and e-learn	E-learning system will be provided for classes on research ethics/integrity. Classes of "Highly Advanced Medicine" and "Step-up lecture on RCR" are held in intensive courses. Several pedagogic strategies including video-lecture and e-learning will be used according to student condition and COVID-19 status.							
Course	e Goals(授業)	の目的)	This specia medicine, v technologie understand	This special lecture on bioethics will deal with ethical issues involved in developmental biology and regenerative medicine, which may be relevant to organ transplantation, human stem cell research, genetic research and technologies, and so on. This course is aimed to provide life science researchers with adequate knowledge and understanding concerning major bioethical issues and norms to help them conduct ethically sound researches							
Course Learning goals(学修 目標)			[A level (A Students ar 1. recognize and biomed 2. make eth 3. express t 4. compreh [C level (C 1. to unders researches, 2. to unders	[A level (A水準)] tudents are able to . recognize a variety of issues on biomedical ethics in life sciences, highly advanced biomedical technologies nd biomedical researches, and identify fundamental problems inherent in them, . make ethically consistent discussion basing on relevant norms of biomedical ethics, . express their own ethical views, and . comprehend academic materials in the field of biomedical ethics. [C level (C水準)] . to understand ethical issues related to life sciences, highly advanced biomedical technologies and biomedical esearches, and							
Course	Outline(授業	¢の概要)	The course and studen present the	will consist of lectures concerning importar ts' presentation. Participating students ma ir own arguments.	nt bi ay be	bioethical issues be required to cr	and principles ritically read bi	s, small group discussion, oethical papers and			
				Details for Individual Classes(各回の)授美	業内容)					
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brief Outline of Class(内容概略)					
1			[1st grade Responsible] e Conduct of Research (RCR) 1	eAPRIN (CITI e-learning system)			.)			
2			RCR 2		eAPRIN (CITI e-learning system)						
3			RCR 3		e/	APRIN (CITI e-le	earning system	.)			
4			RCR 4			eAPRIN (CITI e-learning system)					
5			RCR 5			eAPRIN (CITI e-learning system)					
6			【2nd grad Highly adva	e) nced medicine 1	0)rgan Transplan	tation				
7			Highly adva	nced medicine 2	Re	legenerative me	dicine				
8			Highly adva	nced medicine 3	G	Gene diagnosis a	and therapy				
9			Highly adva	nced medicine 4	As	ssisted reprodu	ictive technolo	gy			
10			Highly adva	nced medicine 5	Er	nhancement					
11			[3rd grade Step-up lec	e] ture on RCR 1	Pr	rofessionalism	of scientists				
12			Step-up lec	ture on RCR 2	C	Conflict of Intere	est				
13			Step-up lec	ture on RCR 3	Re	lesearch Integrit	ty				
14			Step-up lec	ture on RCR 4	Re	lesearchers' Soc	ial Responsibi	lities			
15			Step-up lec	ture on RCR 5	Sc	cience Commu	nication				
Estim	ated out-of- study time	class									
Require	ed Textbook ト)	(テキス	Textbooks a	are not specified and handouts are provided	d.						
Reading List(参考文献)		The Hastings Center. Bioethics Briefings (https://www.thehastingscenter.org/publications-resources/hastings- center-bioethics-briefings/) Ravitsky V. et al. (Edition) The Penn Center Guide to Bioethics. Springer, 2009. Bonnie Steinbock (Edition) The Oxford handbook of Bioethics. Oxford University Press, 2007. Singer PA. et al (Edition) The Cambridge Textbook of Bioethics. Cambridge university Press, 2008. Carl Mitchan (Editor in Chief) Encyclopedia of Science, Technology, and Ethics. Volume 1-4, Macmillan Reference USA, Thomson/Gale, 2005. Beauchamp TL, Childress JF. Principles of Biomedical Ethics 4th edition. NY, Oxford University Press, 1994. Alastair Campbell. Bioethics the basics. Routledge, 2013. British Medical Association. Medical Ethics Today 3rd edition. London, BMJ, 2011.					ns-resources/hastings- 2007. ess, 2008. 1-4, Macmillan iversity Press, 1994.				
Enrollm	ent Conditio	ons(履修									
Assess Criter	余件) ment Metho ia(評価方法・	ds and 基準)	Students ar understand	e evaluated for their course grades and cree ing and knowledge earned about informatic	dits on ir	based on the c n the research f	ourse hours co for bioethics. a	ompleted, their bility of summarizing and			

Assessment Methods and Criteria(評価方法・基準)	presenting bioethical deliberation of their own themes, and so on. Grading will be based on the student's understanding of the course subjects.
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 (The teacher with academic degrees of bioethics and medicine, and practical work experiences including research and education on biomedical ethics, ethical review of medical research protocols, and clinical ethics support.)

Course Coding(科 目ナンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	l Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7-117-99-1	2025	whole year	Graduate School of Medical Sciences (22180)	1	, 2, 3, 4	2	others		
	Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)		
Practice "Enshu "Enshu	iu" on De u" on Dev	velopmental velopmental	ISHIGURO Keiichiro, OKAE Hiroaki, ryuki, ABE Hironori, FUJIMAKI Sh lopmental Biology and Regenerative Medicine I(Practice lopmental Biology and Regenerative Medicine I) Tomoaki, Oike Akira, KIKUCHI Koji, N				KAE Hiroaki, SHIMADA FUJIMAKI Shin, Endo i, HINO Shinjiro, KOGA KUCHI Koji, WATASE Joji		
Goals with their ratio(学修成果とその割合)									
1.Advanced expert knowledge, skill and research capability ····30% 2.Profound inter-disciplinary knowledge ····30% 3.Global and ability to take initiative action ····20% 4.Social leadership drive ····20%							% 3.Global perspective		
Type of Class(授業	の形態)	Seminar							
Teaching Method(法)	授業の方	PBL, group	work training						
Course Goals(授業	の目的)	Developme biology, mo fields of bio diseases fro to repair ag related to a practice int advancing of	evelopmental and regenerative medicine is an extremely interdisciplinary science that involves embryology, cell iology, molecular biology, genetics, immunology, histology, reconstructive surgery, bioethics and other broad elds of biosciences. Characterizing pathological conditions and etiology and developing medical treatment for iseases from the viewpoint of developmental biology, as well as establishing regenerative medicine in an effort o repair ageing and injured tissues and organs, may need to surmount various critical problems that should be elated to above interdisciplinary fields. Based on the knowledge learned in the special lectures "Tokuron", this ractice intends to enhance the ability of approaching solution of problems from a multilateral perspective by						
Course Learning go 目標)	oals(学修	[A level (A水準)] Students are expected to acquire the ability to approach solutions to problems from a multilateral perspective based on their knowledge in interdisciplinary fields. [C level (C水準)] Students are expected to acquire the ability to approach solutions to problems from a perspective based on their knowledge in the fields.							
Course Outline(授美	業の概要)	Students form a small group and raise an issue related to developmental and regenerative medicine. (An example of the issue might be finding a way to recover kidney function avoiding relying on dialysis treatment.) Students then find obstacles to settlement of the issue and examine literatures cooperatively with the group members and make discussions in order to explore methodology and strategy to solve the raised problems. The instructors listed above appropriately support the group work to facilitate learning. Results of the study are summarized in a report. Students will also have opportunities for the presentation of the results.							
			Details for Individual Classes(各回の授業内容)						
No.(回 Date()	月日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)		
1		Issues will b	be raised by students.	lssue	es will be rai	sed by student	S.		
Estimated out-of study time	f-class	60 hours	60 hours						
Required Textboo ト)	k(テキス								
Reading List(参考	昏文献)								
Enrollment Conditi 条件)	ons(履修								
Assessment Metho Criteria(評価方法	ods and ・基準)	Grading will be based on active participation in the group work as well as the final report and presentation. Focus of evaluation are (i) whether problems are appropriately raised from the selected issue, (ii) whether strategies to solve the problems are appropriately presented, (iii) whether both technical and ethical aspects are considered.							
Language Use Instruction(使用	d in 言語)	Japanese ai	nd English						
Textbook/Mat Language(教科書・ 語)	erial 資料の言	English							
Course Based on F Work Experience(を活かした授	Practical 実務経験 業)	Not applica	ble						

Course 目力	e Coding(科 トンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	′-118-99-1	2025	whole year	Graduate School of Medical Sciences (22190)	1	, 2, 3, 4	2	others		
		Co	ourse Title(Th	neme)(科目名(講義題目))		Instructor(s)(担当教員)				
Prae	ctice "Enshuı "Enshuı	u" on Dev ı" on Dev	velopmental relopmental [Biology and Regenerative Medicine II(Pract Biology and Regenerative Medicine II)	ce	ISHIGURO Keiichiro, OKAE Hiroaki, SHIMADA ryuki, ABE Hironori, FUJIMAKI Shin, Endo Mitsuhiro, KOGA Saori, HINO Shinjiro, KOGA Tomoaki, Oike Akira, KIKUCHI Koji, WATASE Joji				
				Goals with their ratio(学修成果とその割合)						
1.Adva and ab	nced expert l ility to take ir	knowled§ nitiative a	ge, skill and r action ••••10	esearch capability ·····50% 2.Profound inte 0% 4.Social leadership drive ····10%	er-disc	iplinary kno	wledge ····30	% 3.Global perspective		
Туре о	of Class(授業	の形態)	Lecture and	d Seminar						
Teachi	ng Method(排 法)	受業の方	Students at summary of for one repo	tend the seminars that are authorized by th f the lectures and his/her own discussion ab ort.	e cour out th	se and write topics. In	e reports. The re principle, one l	eports should include hour seminar is suitable		
Course Goals(授業の目的)			Developme life science regenerative and present date knowle "Tokuron".	ntal and regenerative medicine is an interdi . This practice consists of lectures from rese e medicine in Japan and overseas. Research t latest developments of their own. Students edge of regenerative medicine and related f	sciplir arche iers co are e ields t	nary science rs who work ommitted to ncouraged t hat may not	that is rapidly on developme cutting-edge re to attend the se be covered in	evolving as a new field of ntal biology and esearch will be invited minars to acquire up-to- the special lectures		
Course Learning goals(学修 目標)		als(学修	[A level (A Students ar medicine. [C level (C Students ar medicine.	【A level (A水準)】 Students are expected to acquire competence to understand the latest research developments of regenerative medicine. 【C level (C水準)】 Students are expected to acquire competence to understand the research developments of regenerative medicine.						
Course	e Outline(授業	¢の概要)	Topics of the seminars may encompass full range of issues that are related to developmental biology and regenerative medicine, including cell engineering, genetic engineering, biomedical materials, reproductive medicine and bioinformatics.							
	-		-	Details for Individual Classes(各回の	授業内]容)				
No.(回)	Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)		
1			the latest re medicine	esearch developments of regenerative	the med	latest resear licine	ch developmer	nts of regenerative		
Estir	nated out-of- study time	-class	75 hours							
Requir	red Textbook ト)	(テキス								
Read	ding List(参考	文献)								
Enrollm	nent Conditio 条件)	ons(履修								
Assess Criter	sment Metho ria(評価方法,	ods and · 基準)	Students ar four years a	e obligated to attend 15 or more lectures a t maximum. Grading will be based on the re	nd sub ports.	omit reports.	The attendanc	e can be extended to		
La Inst	nguage Used ruction(使用)	d in 言語)	English							
Te Langua	xtbook/Mate ge(教科書・う 語)	erial 資料の言	English							
Course Work E	e Based on P Experience(実 を活かした授う	ractical ≅務経験 業)	Not applica	ble						

Course Coding(科 目ナンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7-119-99-1	RDM7-119-99-1 2025who		Graduate School of Medical Sciences (22200)	1	, 2, 3, 4	2	others		
Course Title(Theme)(科目名(講義題目))						Instructor(s)(担当教員)		
Practice "Enshut "Enshut	ม" on Dev เ" on Dev	elopmental elopmental	Biology and Regenerative Medicine III(Pract Biology and Regenerative Medicine III)	ice	ISHIGURO Keiichiro, OKAE Hiroaki, SHIMADA ryuki, ABE Hironori, FUJIMAKI Shin, Endo Mitsuhiro, KOGA Saori, HINO Shinjiro, KOGA Tomoaki, Oike Akira, KIKUCHI Koji, WATASE Joji				
Goals with their ratio(学修成果とその割合)									
1.Advanced expert and ability to take in	knowled§ nitiative a	ge, skill and r action ····20	research capability ·····30% 2.Profound inte 0% 4.Social leadership drive ····20%	er-disc	iplinary kno	wledge ····30	% 3.Global perspective		
Type of Class(授業	の形態)	Seminar							
Teaching Method(法)	受業の方	Students at other relate	tend domestic or international conferences ed research fields, and present findings obta	on de ined fi	velopmenta rom their ov	l biology, reger vn research.	nerative medicine and		
Course Goals(授業	の目的)	During the present res practice air researchers	process of conducting research on develop earch findings and discuss with other scient ns at expanding capability to make a produc s and to present and discuss own findings in	menta ists at ctive d an eff	l and regene domestic an iscussion or ective manr	erative medicin nd internationa n a subject pres ner at an acade	e, it is necessary to I conferences. This ented by other mic conference.		
Course Learning go 目標)	oals(学修	[A level (A Students ar researchers [C level (C Students ar present and	[A level (A水準)] students are expected to acquire skills to make a productive discussion on a subject presented by other esearchers and to present and discuss their own findings in an effective manner at an academic conference. [C level (C水準)] students are expected to acquire skills to make a discussion on a subject presented by other researchers and to present and discuss their own findings at an academic conference.						
Course Outline(授考	€の概要)	Students at other relate present find appropriate the state of	Students attend domestic or international conferences on developmental biology, regenerative medicine and other related research fields. In addition to discuss on the subjects presented by other researchers, students will present findings obtained from their own research in poster or oral sessions. The instructors listed above appropriately support discussions and preparations of presentation. Students finally write a report that includes the state of achievement of the activities at the conferences.						
			Details for Individual Classes(各回の	授業内	9容)				
No.(回 Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)		
1		student's ov	wn research theme	stud	ent's own re	search theme			
Estimated out-of study time	-class	60 hours							
Required Textbook ト)	(テキス								
Reading List(参考	(文献)								
Enrollment Conditie 条件)	ons(履修								
Assessment Methods and Criteria(評価方法・基準)		Students ar developme more in sur they attend report.	re obligated to attend and make a presentat ntal biology and regenerative medicine. Len n total. Student should present their own re I. The attendance can be extended to four y	ion in gth of search ears at	domestic or the activitie findings at maximum.	international c is at the confer- least once in a Grading will be	onferences on ences should be 4 days or ny of the conferences based on the final		
Language Use Instruction(使用	d in 言語)	English							
Textbook/Mate Language(教科書・ 語)	erial 資料の言	English							
Course Based on P Work Experience() を活かした授	Practical 実務経験 業)	Not applica	able						

Course 目ナ	e Coding(科 - ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible tudent (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	-120-99-1	2025	whole year	Graduate School of Medical Sciences (22210)	1,	, 2, 3, 4	2	others		
		Сс	ourse Title(Th		•		Instructor(s	s)(担当教員)		
Med	Practical Tr licine(Practio	aining ' cal Traini	ʻJisshuu" on l ing "Jisshuu	Developmental Biology and Regenerative " on Developmental Biology and Regenerativ	/e	ISHIGUR Kenji, N	D Keiichiro, OK IISHINAKAMUR	AE Hiroaki, SHIMAMURA A Ryuichi, Yusuke Ono		
				Goals with their ratio(学修成果とそ	の割合	(1				
1.Advar and abi	nced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ••••10	esearch capability ····50% 2.Profound inter 0% 4.Social leadership drive ····10%	r-disci	plinary kno	wledge ····309	% 3.Global perspective		
Туре о	of Class(授業)	の形態)	Practice							
Teachir	ng Method(挑 法)	受業の方	Each trainir lectured, th	ng course will be held in a laboratory in charg en practical handling will be trained. Results	ge. Fir and c	st, the princ liscussions	tiple of a metho must be surmm	nd or a technique will be narized in a report.		
Course	e Goals(授業	の目的)	Various exp medicine, w histology. F practically. methods an in specific r techniques	arious experimental methods and techniques are applied in the field of developmental biology and regenerative nedicine, which is an interdisciplinary research based on cell biology, molecular biology, immunology and istology. For researchers in the field, it is required to learn such experimental methods and techniques practically. Even for researcher outside the filed, it is important to understand a background of the experimental nethods and techniques, since it gives us a multilateral viewpoint and would support to resolve various problems in specific research fields. Principles and practical procedures for several important experimental methods and echniques were trained in practical training of Dovelopmental Biology and Processoria Medicine.						
Course Learning goals(学修 目標)		als(学修	[A level (A Students ar advanced e [C level (C Students ar general exp	[A level (A水準)] tudents are expected to acquire competence to understand principles and practical procedures for several dvanced experimental methods and to perform them by themselves. [C level (C水準)] tudents are expected to acquire competence to understand principles and practical procedures for several eneral experimental methods and to perform them by themselves.						
Course Outline(授業の概要)		(の概要)	 Scanning electron microscopy (Brain Morphogenesis) Fractionation and isolation of cells by FACS (Cell Differentiation) Isolation of RNA/DNA and quantification by PCR (Medical Cell Biology) Operant conditioning test, Open field test, Fear-conditioning test (Molecular Physiology) Two-photon fluorescence microscopy for neurons (Sensory and Cognitive Physiology) Lipofection, Western blot (Kidney Development) Induction of protein expression in bacteria, protein purification (Molecular Cell Biology) 							
			In this course, sessions in Practical Training of Metabolism and Cardiovascular Medicine could also be selected.							
			Details for Individual Classes(各回の授業内容)							
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cla	ass(内容概略)		
1			Schedule of separately.	f each session will be forwarded to you	Cont sepa	ents of eacl rately.	n session will b	e forwarded to you		
Estin	nated out-of- study time	class	40 hours							
Require	ed Textbook ト)	(テキス								
Read	ling List(参考	文献)								
Enrollm	ient Conditio 条件)	ons(履修								
Assessment Methods and Criteria(評価方法・基準)		ds and · 基準)	Students must participate in at least 8 sessions and submit reports for each session. Grading will be based on the student's understanding of the subject matter as well as activities in the classes. The students' understanding will be evaluated on the basis of reports to be scored from 0 to 100 for each session. Final grades will be based on the average of the top 8 scores.							
Laı İnstr	nguage Usec ruction(使用	t in 言語)	English							
Tex Langua	ktbook/Mate ge(教科書・資 語)	erial 資料の言	English							
Course Work E を	Based on P xperience(実 活かした授業	ractical ≋務経験 ≹)	Not applica	ble						

Educational Program for Advanced Research in Infectious Diseases and AIDS

Course 目ナ	Coding(科 マンバー)	Year/Se m(年 <u>[</u>	mester/Ter ま・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7	DM7-004-99-2 2025whole yea		vhole year	Graduate School of Medical Sciences (25580)	1	, 2, 3, 4	2	others	
		Co	urse Title(Theme)(科目名(講義題目)) Instructor(s)(担当教員)						
Spec	ial Lecture I	on Infect	ious Disease	es and AIDS(B4 Infection and Immune Contr	ol)	SATO Yor KUBOTA MOTOZ Shinya, TANAk	ifumi, KUWATA Ryuji, OKADA ONO Chihiro, NAKATA Hirot (A Yasuhito, YA MONDE	NTakeo, IKEDA Masanori, Seiji, OSHIUMI Hiroyuki, SAWA Tomohiro, SUZU omo, IKEDA Terumasa, NSUNAGA Jyunichirou, E Kazuaki	
				Goals with their ratio(学修成果とそ	の割合	う)			
1.Advan and abil	iced expert l lity to take ir	knowledg nitiative a	e, skill and r ction ····20	esearch capability ····30% 2.Profound inte % 4.Social leadership drive ····20%	r-disci	iplinary knov	wledge ····30	% 3.Global perspective	
Туре о	of Class(授業)	の形態)	Lecture						
Teachir	ng Method(挑 法)	受業の方	PowerPoint will be used in the lectures, and active participation in the discussion is encouraged. Extra classes or video lectures are considered for those who are regularly absent for unavoidable reasons. (Before starting this course students will be informed of the individual lecture style of instructors in detail.)						
Course	e Goals(授業	の目的)	The aim of this lecture series "Special Lecture I on Infectious Diseases and AIDS" is to learn following topics important for basic and clinical research of infectious diseases: (1) interaction between pathogen and host response, (2) molecular pathogenesis of viral infection, (3) immune control and vaccine research, (4) management of nosocomial/opportunistic infection, (5) diagnosis and treatment of emerging/re-emerging infectious diseases.						
Course Learning goals(学修 目標)			 [A level (A水準)] Students will learn following topics important for basic and clinical research of infectious diseases. Students will learn following topics important for basic and clinical research of infectious diseases. (1) interaction between pathogen and host response, (2) molecular pathogenesis of viral infection, (3) immune control and vaccine research, (4) management of nosocomial/opportunistic infection, (5) diagnosis and treatment of emerging/reemerging infectious diseases, (6) Pathogenesis and treatment of HIV-1 infection. [C level (C水準)] Understanding for the following points. (1) interaction between pathogen and host response (2) molecular pathogenesis of viral infection (3) immune control and vaccine research (4) management of nosocomial/opportunistic infection (5) diagnosis and treatment of emerging/ree-emerging infectious diseases (6) Pathogenesis and treatment of HIV-1 infection 						
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(F	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1			Terumasa II	(eda [eE-O]	Retro	ovirus life cy	vcle		
2			Tomohiro S	awa [eE-O]	Bacte	erial infectio	on and pathoge	enesis	
3			Hiroyuki Os	hiumi 【eE-O】	Innat	te immune r	esponses to pa	athogens	
4			Chihiro Mo	tozono [eE-O]	Cellu	ılar immune	responses to p	oathogens	
5			Takeo Kuwa	ata [eE-O]	Hum	oral immun	e responses to	pathogens	
6	06/3	30	5th period(16:45~18:15) Kazuaki Monde【eE-O】	Adap	otive evoluti	on of viral gene	ès	
7	07/0)7	5th period(O]	16:45~18:15) Jyunichirou Yasunaga 【eE-	Emer	rging/re-em	erging infectio	us diseases	
8			Shinya Suzı	leE-O]	Retro	oviruses-hos	st interaction		
9			Yorifumi Sa	to [eE-O]	Retro	oviral infecti	ons and latenc	.y	
10			Masanori Ik	eda 【eE-O】	Mole	ecular patho	genesis of hep	atitis viruses	
11			Yasuhito Ta	naka [eE-O]	Нера	atitis viruses	and Liver can	cer	
12			Ryuji Kubot	a [eE-O]	Virus	s-induced ne	eurological dise	eases	
13			Seiji Okada	[eE-O]	Anim	nal model re	search in infec	tious diseases	
14			Hirotaka Ma	atsui [eE-O]	Roles	s of laborato	orv medicine fo	or infectious diseases	
15			Hirotomo N	lakata (eE-O)	Nosc	ocomial/opp	portunistic infe	ction	
Estim	nated out-of- study time	-class	This course consists of content that requires hours (90 hours) of study. Since the class is 30 hours (2h x 15 frames) , 60 hours of pre- and post-study (including assignments) is necessary to understand the class. It is necessary to deepen.						
Require	ed Textbook ト)	(テキス	Textbooks are not specified, and handouts will be distributed.						
Reading List(参考文献)		;文献)	"Atlas of AIDS" edited by Gerald L. Mandell and Donna Mildvan. Current Medicine, Inc. Philadelphia, 2001. "Infectious Diseases and Medical Microbiology" 2nd Edition, Abraham I. Braude et al., W.B. Saunders Company						

Enrollment Conditions(履修 条件)	Have basic knowledge concerning what is taught in this course.
Assessment Methods and Criteria(評価方法・基準)	This class consisted of a series of omnibus lectures by 15 lecturers as listed in the schedule. Evaluation will be done based on active class participation, examination test and/or report for subjects by each lecturer. In order to get credits students have to take more than 2/3 lectures. Grading will be based on the average of top 10 scores among ones obtained by the student.
Language Used in Instruction(使用言語)	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 目ナ	Course Coding(科 目ナンバー) Year/S m(年		emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student ear(開講年次) Credits(単位 数)		Weekday and Period(曜 日・時限)			
RDM7	M7-028-81-1 2025wh		whole year	ole year Graduate School of Medical Sciences (25590)		, 2, 3, 4	2	others			
		Co	ourse Title(Theme)(科目名(講義題目)) Instructor(s)(担当教員)					s)(担当教員)			
Spe	cial Lecture	II on Infe	rectious Diseases and AIDS(Special Lecture II on Infectious Diseases and AIDS (F2)) UENO Takamasa, GATANAGA Hiroyuki, S Wataru, WATANABE Koji, YAMAMOTO H TACHIKAWA Ai, MATANO Tetsuro, MAED NAKAHATA Shingo, NOMURA Takushi, S Kenji, TAKAHASHI Naofumi				NAGA Hiroyuki, SUGIURA ji, YAMAMOTO Hiroyuki, O Tetsuro, MAEDA Kenji, MURA Takushi,SUGATA ASHI Naofumi				
				Goals with their ratio(学修成果とそ	の割合	\$)					
1.Advan and abil	iced expert l lity to take ir	knowled nitiative a	ge, skill and r action ••••35	esearch capability ····25% 2.Profound inte % 4.Social leadership drive ····5%	r-disci	plinary kno	wledge ····359	% 3.Global perspective			
Туре о	f Class(授業	の形態)	Lecture								
Teachir	ng Method(捂 法)	受業の方	PowerPoint will be used in the lectures, and active participation in the discussion is encouraged. Extra classes or video lectures are considered for those who are regularly absent for unavoidable reasons. (Before starting this course students will be informed of the individual lecture style of instructors in detail.)								
Course	e Goals(授業	の目的)	The aim of t important for treatment or statistics, (4 transmission	this lecture series "Special Lecture II on Infe or clinical, epidemiological and social science f infections, (2) pathogenesis and complicat D Surveillance and epidemiology in infection n and educational approaches to high risk g	ectiou: ce rese ions ir is at de roups,	s Diseases a earch of infe n infectious omestic and (6) antivira	and AIDS" is to ctious diseases diseases, (3) pi global levels, l drugs and vira	o learn following topics s: (1) diagnosis and rinciples in medical (5) prevention of al resistance to drugs.			
Course Learning goals(学修 目標)			[A level (A水準)] Students will learn following topics important for clinical, epidemiological and social science research of infectious diseases: (1) diagnosis and treatment of infections, (2) pathogenesis and complications in infectious diseases, (3) principles in medical statistics, (4) Surveillance and epidemiology in infections at domestic and global levels, (5) prevention of transmission and educational approaches to high risk groups, (6) antiviral drugs and viral resistance to drugs. [C level (C水準)] Students will learn following topics important for clinical, epidemiological and social science research of infectious diseases: (1) diagnosis and treatment of infections, (2) pathogenesis and complications in infectious diseases, (3) principles in medical statistics, (4) Surveillance and epidemiology in infections at domestic and global levels, (5) prevention of transmission and educational approaches to high risk groups, (6) antiviral drugs								
Course Outline(授業の概要)			It would not be an overstatement if we say the history of mankind has been a long history of fight against infectious diseases. Researches on infectious diseases have been contributed enormously to the health and longevity of the life in developed nations at present. Development of diagnosis and treatment strategy against infectious diseases, management of comorbidities and complication, surveillance of infections, understanding epidemics provided a big impact to our society. These accomplishments have been made possible by accumulation and collaboration of research studies in clinical sciences, epidemiology, and social sciences. The up-to-date research results including the lecturers' own experiences will be presented. In addition, students are expected to learn principles of statistical approaches in medical sciences.								
				Details for individual Classes(各回の		1台)					
NO.(凹)	Date(月	日)		Class Theme(授業テーマ)		Brie	of Outline of Cla	ass(内容概略)			
1			Hiroyuki Ga	tanaga [eE-0]	Diag	nosis and tr	eatment of HIV	' infection			
2			Hiroyuki Ga	tanaga [eE-0]	Clinio agen	cal pharmao ts	cology and long	g-term toxicity of antiviral			
3			Wataru Sug	iura 【eE-0】	Curre	ent issues ir	global infection	ons			
4			Wataru Sug	iura 【eE-0】	Genc	omics in Infe	ectious disease	S			
5			Watanabe ł	Koji [eE-0]	opportunistic infection among progressed HIV patients			progressed HIV infected			
6			Watanabe ł	Koji [eE-0]	Epide trans	emiological mission sou	strategy based irce	on the size of			
7			Hiroyuki Ya	mamoto【eE-0】	Antiv	viral immuni	ty: defense ver	sus perturbation			
8			Hiroyuki Ya	mamoto [eE-0]	Adap	otive immun	e responses in	HIV/SIV infection			
9			Ai Tachikaw	/a [eE-0]	Nove	el approach	es in immunoth	ierapy			
10			Tetsuro Ma	tano [eE-0]	Vacc	ine-based c	ontrol of infect	ious diseases			
11			Kenji Maed	a [eE-0]	Deve	elopment of	antiviral therap	by against viral infection			
12			Shingo Nak	ahata [eE-0]	Onco	ology in the	area of viral inf	fectious diseases			
13			Takushi No	mura [eE-0]	Anim	al models f	or control of int	fectious diseases			
14			Kenji Sugat	a [eE-0]	Antig	gen presenta	ation and T cell	response of infectious			
15			Naoumi Tal	kahashi (eE-0)	Issue	es regarding	viral persisten	ce			
Estim	nated out-of-	-class	This course consists of content that requires 90 hours of study.								
Required Textbook(テキス		(テキス	Textbooks are not specified, and handouts will be distributed.								
ト) Reading List(参考文献)		"AIDS info G,L.Mandel Harrison's	Web site; http//AIDSinfo.nih.gov. Atlas of land D.Mildvan.) principles of internal medicine 16th ed.	AIDS 3	3rd edition;	Current Medic	ine, Inc.,2001. (edited by				

Enrollment Conditions(履修 条件)	
Assessment Methods and Criteria(評価方法・基準)	Evaluation will be done based on active class participation, examination test and/or report for subjects by each lecturer. In order to get credits students have to take more than 2/3 lectures. Grading will be based on the average of top 5 scores among ones obtained by the student.
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)	Course Coding(科 Year/S 目ナンバー) m(年		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)	
RDM7-158-82-1	2025	whole year	Graduate School of Medical Sciences (25600)	1, 2, 3, 4		2	others	
	Co	ourse Title(Th	urse Title(Theme)(科目名(講義題目))			Instructor(s)(担当教員)	
Training I on Inf	ectious Di	seases and A	IDS(Practice I on Infectious Diseases and AII	DS)	SU	ZU Shinya, Yas	unaga Jiyunichirou	
Goals with their ratio(学修成果とその割合)								
1.Advanced exper and ability to take	t knowled initiative a	ge, skill and r action ••••25	esearch capability ····25% 2.Profound inter % 4.Social leadership drive ····10%	r-disci	plinary kno	wledge ····40	% 3.Global perspective	
Type of Class(授美	¢の形態)	Training						
Teaching Method 法)	(授業の方	Attend a 1- Kumamoto	week training course as an observer, and lec University Hospital	tures r	elated to th	ne diagnosis of	infectious diseases, at	
Course Goals(授詞	美の目的)	It is very important for basic researchers to know actual clinical practice. Especially on the infectious diseases field to see the advance of treatment allows their research motivations upward. The aim of this course is to visit clinic and see patients with infectious diseases.						
Course Learning g 目標)	oals(学修	[A level (A Students ca [C level (C	水準)】 n learn importance of feedback of basic rese 水準)】	earch	outputs to a	clinics.		
Course Outline(授	業の概要)	 Attend a 1-week training course as an observer, that includes lectures on the following topics: 1. Introduction to Infectious Diseases 2. Overview on opportunistic infections 3. Patient support 4. Outpatient clinic and ward building tours 5. Clinical conference 						
			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)			ass(内容概略)	
1		July 8 - July 1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica	12 uction to Infectious Diseases ew on opportunistic infections t support tient clinic and ward building tour Il conference	Atten lectu	id practical res	training course	es (as an observer) and	
Estimated out-o study tim	of-class e							
Required Textboo ト)	ok(テキス	Nothing in particular						
Reading List(参	考文献)	Nothing in particular						
Enrollment Condit 条件)	ions(履修	Japanese Medical License holders will be allowed to see patients. Those that do not have a license, will focus on lectures, tours and rounds						
Assessment Meth Criteria(評価方法	ods and •基準)	Evaluation will be performed considering active participation and contribution during the course, in addition to the report						
Language Us Instruction(使月	ed in 引言語)	Japanese and English						
Textbook/Ma Language(教科書 語)	terial 資料の言	Combination of Japanese and English						
Course Based on Work Experience を活かした招	Practical 実務経験 業)	Not applicable						

Course Coding(科 目ナンバー) Year/Se m(年		emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible itudent (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)			
RDM7-159-82-1	2025	whole year	Graduate School of Medical Sciences (25610)	1, 2, 3, 4		2	others			
	Co	urse Title(Theme)(科目名(講義題目))				Instructor(s)(担当教員)			
Training II on Infe	ctious Di	seases and A	IDS(Training II on Infectious Diseases and AIDS) SUZU Shinya, GATANAGA Hiroyuki				TANAGA Hiroyuki			
			Goals with their ratio(学修成果と ⁻	の割合	(1					
1.Advanced expert and ability to take in	knowled§ nitiative a	ge, skill and r action ••••25	research capability ·····25% 2.Profound int 5% 4.Social leadership drive ····10%	er-disci	plinary know	wledge ····409	% 3.Global perspective			
Type of Class(授業	の形態)	Training								
Teaching Method(法)	受業の方	Attend a 1- National Ce	week training course on HIV clinical praction of the section of th	e, the a	as an obser	ver, at the Cent	ter Hospital of the			
Course Goals(授業	の目的)	It is very im the advance clinic and s	portant for basic researchers to know actua e of treatment allows their research motivat ee patients with HIV infection.	l clinica ons up	al practice. ward. The a	Especially on tl aim of this cour	he HIV/AIDS field to see se is to visit HIV/AIDS			
Course Learning go 目標)	als(学修	[A level (A Students ca [C level (C	水準)] an learn importance of feedback of basic re :水準)]	earch	outputs to c	clinics.				
Course Outline(授美	きの概要)	During the 1-week course, you also receive lectures below. 1. HIV review 2. Opportunistic infections associated with HIV infection 3. Patient support 4. Meeting for out-patients 5. Meeting for in-patients								
			Details for Individual Classes(各回の	授業内	容)					
No.(回) Date(月	3日)		Details for Individual Classes(各回の Class Theme(授業テーマ)	授業内	容) Brie	of Outline of Cla	ass(内容概略)			
No.(回 Date()	3日)	1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference	·授業内 Atter lectu	容) Brie nd practical res	ef Outline of Cla training course	ass(内容概略) es (as an observer) and			
No.(Date() Date()	日) -class	1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference	授業内 Atter lectu	容) Brie nd practical res	ef Outline of Cla training course	ass(内容概略) es (as an observer) and			
No.(Date() Date() Date() No.(Required Textbool No.(No.(Date()) Date() ヨ日) -class :(テキス	1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica Nothing in	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference	授業内 Atter lectu	容) Brie nd practical res	ef Outline of Cla training course	ass(内容概略) es (as an observer) and				
No.(回 Date()) Date() 1 Estimated out-of study time Required Textbook ト) Reading List(参考	3日) -class -(テキス -(文献)	1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica Nothing in	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference particular	授業内 Atter lectu	容) Brie nd practical res	ef Outline of Cla training course	ass(内容概略) es (as an observer) and			
No.(回 Date()) Date() 1 Estimated out-of study time Required Textbook 卜) Reading List(参考 Enrollment Conditio 条件)	3日) -class :(テキス :(テキス :文献) ons(履修	1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica Nothing in Nothing in Only Japane	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference particular particular ese Medical License holders	授業内 Atter lectu	容) Brie nd practical res	ef Outline of Cla training course	ass(内容概略) es (as an observer) and			
No.(回) Date(月 1 1 Estimated out-of study time Required Textbook 卜) Reading List(参考 Enrollment Condition 条件) Assessment Metho Criteria(評価方法	ヨ日) -class :(テキス :(テキス ions(履修 ods and ・基準)	1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica Nothing in Nothing in Only Japano Evaluation the report.	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference particular particular ese Medical License holders will be performed considering active partici	授業内 Atter lectu	容) Brie nd practical res and contrib	ef Outline of Cla training course ution during th	ass(内容概略) es (as an observer) and es course, in addition to			
No.(回) Date() 1 1 Estimated out-of study time Required Textbook 卜) Reading List(参考 Enrollment Conditia 条件) Assessment Methor Criteria(評価方法 Language User Instruction(使用	-class c(テキス f文献) ons(履修 ods and ・基準) d in 言語)	1. Introdu 2. Overvi 3. Patien 4. Outpa 5. Clinica Nothing in Nothing in Only Japane Evaluation the report. Japanese	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference particular particular ese Medical License holders will be performed considering active partici	授業内 Atter lectu	容) Brie nd practical res and contrib	ef Outline of Cla training course ution during th	ass(内容概略) es (as an observer) and es course, in addition to			
No.(回) Date(月 1 1 Estimated out-of study time Required Textbook 卜) Reading List(参考 Enrollment Conditi 条件) Assessment Metho Criteria(評価方法 Language User Instruction(使用 Textbook/Mate Language(教科書· 語)	日) -class (テキス (テキス (テキス) ons(履修 ods and ・基準) din 言語) erial 資料の言	1. Introdu 2. Overvi 3. Patien 4. Outpai 5. Clinica Nothing in Nothing in Only Japane Evaluation the report. Japanese	Details for Individual Classes(各回の Class Theme(授業テーマ) uction to HIV infection ew on opportunistic infections t support tient clinic and ward building tours al conference particular ese Medical License holders will be performed considering active partici	授業内 Atter lectu	容) Brie nd practical res and contrib	ef Outline of Cla training course ution during th	ass(内容概略) es (as an observer) and ee course, in addition to			
Course Coding(科 目ナンバー)	Year/So m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・ 割コード)	時間	E S Year	Eligible tudent (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
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RDM7-160-79-1	2025	whole year	Graduate School of Medical Scienc (25620)	es	1,	, 2, 3, 4	8	others		
	Co	ourse Title(Tł	neme)(科目名(講義題目))				Instructor(s)(担当教員)		
Practice I on Infe	ectious Di	seases and A	eases and AIDS(Practice I on Infectious Diseases and AIE			 GATANAGA Hiroyuki, MIZUSHIMA Daisuke, MACHIDA Sinichi, MATANO Tetsuro, YAMAMOTO Hiroyuki, TACHIKAWA Ai, TANAKA Yasuhito, YASUNAGA Junichirou, SAWA Tomohiro, OSHIUMI Hiroyuki, OKADA Seiji, SUZU Shinya, SATO Yorifumi, IKEDA Terumasa, UENO Takamasa, 				
			Goals with their ratio(学修成界	とそ	の割合	(1				
1.Advanced expert and ability to take i	knowled nitiative a	ge, skill and r action ••••30	research capability ····40% 2.Profound 0%	inte	r-disci	plinary know	wledge ····309	% 3.Global perspective		
Type of Class(授業	の形態)	Practice								
Teaching Method(法)	授業の方	Journal clul	b							
Course Goals(授業	の目的)	Students wi in scientific findings in t	ill participate in a journal club held in e : literature (written in English). Students the form of a journal review.	ach la will b	aborat pe give	ory listed al en opportur	bove to critical nities to presen	y evaluate recent articles t and discuss the latest		
Course Learning g 目標)	oals(学修	[A level (A Students w related to t [C level (C Students w related to t	【A level (A水準)】 Students will get the ability to critically evaluate recent articles also by having opportunity to present articles related to their research 【C level (C水準)】 Students will get the ability to critically evaluate recent articles also by having opportunity to present articles related to their research							
Course Outline(授	業の概要)	The format laboratory.	The format of each journal club may vary. Students are expected to follow the guidelines set forth by each laboratory.							
			Details for Individual Classes(各回の授業内容)							
No.(Date(月日)		Class Theme(授業テーマ)			Brie	ef Outline of Cla	ass(内容概略)		
1		Acquire kno	owledge related to own research topic		Acqu readi	ire knowlec ng meeting	lge related to re s	esearch topic during the		
Estimated out-o study time	f-class	This course Since the c	consists of content that requires 360 h lass is 240 hours long, the equivalent o	ours 120	of stu hours	dy. of prior and	d post-course s	study is required.		
Required Textboo ト)	k(テキス	Nothing in	particular							
Reading List(参考	皆文献)	Nothing in	Nothing in particular							
Enrollment Conditi 条件)	ons(履修									
Assessment Meth Criteria(評価方法	ods and ・基準)	Grades will	be determined based on active particip	atior	n and u	understandi	ing of journal c	lub materials		
Language Use Instruction(使用	d in l言語)	English								
Textbook/Mat Language(教科書・ 語)	erial 資料の言	English								
Course Based on I Work Experience(を活かした授	Practical 実務経験 業)	Not applica	ble							

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7-	161-79-1	2025	whole year	Graduate School of Medical Sciences (25630)	1	, 2, 3, 4	2	others	
		Co	ourse Title(Th				Instructor(s)(担当教員)	
Practic	ce II on Infe	ctious Di	seases and A	IDS(Practice II on Infectious Diseases and A	AIDS)	М	OTOZONO Chi	ihiro, OKADA Seiji	
				Goals with their ratio(学修成果と	その割合	ት)			
1.Advan and abil	ced expert ity to take ir	knowled§ nitiative a	ge, skill and r action ····30	esearch capability ·····30% 2.Profound int 0% 4.Social leadership drive ····10%	er-disci	iplinary kno	wledge ····30	% 3.Global perspective	
Type o	f Class(授業	の形態)	Seminar						
Teachir	ng Method(排 法)	受業の方	Gain insigh Symposium	t on the latest progress in the research of ir "Kumamoto AIDS Seminar"	fectiou	ıs diseases a	and AIDS, by at	tending the International	
Course	e Goals(授業	の目的)	1. Learn a in realted fi 2. Learn a presentatio 3. Learn a	bout the latest progress by listening to the elds bout presentation techniques, by presentin n bout discussion techiniques, by actively pa	presen 1g your rticipat	tations of le own work in ting in poste	ading foreign a n the form of a er or oral prese	and Japanese researchers poster or oral ntations	
Course	Learning go 目標)	als(学修	[A level (A 1. To be a to further d 2. Learn discussion [C level (C Understanc	A level (A水準)] . To be able to understand the latest advance in the research of infectious diseases and AIDS, and to be able further discuss on the topic . Learn how to clearly explain the content of your research project to others, and to establish a scientific scussion [C level (C水準)] nderstand the contents of invited lecture and summarize the point of lecture.					
Course	Outline(授業	きの概要)	Learn abou skill by mak	t global status of infectious diseases by joir ing presentation in the international semin	ing Ku ar.	mamoto AIE	DS seminar. Als	o, learn about discussion	
				Details for Individual Classes(各回0)授業内]容)			
No.(回)	Date(月	3日)	Class Theme(授業テーマ) Brief Outline of Class(内容概)					ass(内容概略)	
1			The 26th Kumamoto AIDS seminarThe 39th Annual Meeting of the Japanese Society of AIDS Research Japanese Society of AIDS Research Japanese Society of AIDS Research with Kumamoto AIDS seminar in 2025					ectious diseases by minar. Also, learn about sentations in the Annual Meeting of the arch will be held as a joint seminar in 2025.	
Estim	ated out-of- study time	-class	Pre-study is advance.	s needed for better understanding the invite	ed lectu	ıres. Carefu	lly Read the "	Abstract book" in	
Require	ed Textbook ト)	(テキス	Abstract bo	ok of Kumamoto AIDS seminar					
Read	ing List(参考	文献)	NONE						
Enrollm	ent Conditio 条件)	ons(履修							
Assessi Criteri	ment Metho ia(評価方法	ods and · 基準)	Evaluation and discuss	will be done by reports about presentation. sion. Students should submit the report wit	The re nin 2 w	eport contai eeks after th	ns abstract of t ne seminar.	he presentation, Q & A,	
Language Used in Instruction(使用言語)			English						
Textbook/Material Language(教科書・資料の言 語)			English	English					
Course Work E	Based on P xperience(手 活かした授う	ractical ≷務経験 業)	Not applica	ble					

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	 Ye	Eligible Student ear(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7	-162-79-1	2025v	whole year	Graduate School of Medical Sciences (25640)		1, 2, 3, 4	2	others	
		Co	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s)(担当教員)	
Practice	e III on Infec	tious Dis	eases and Al	DS(Practice III on Infectious Diseases and (WYIS))	AIDS	IKEDA Ter	umasa, SATO ነ	′orifumi, UENO Takamasa	
				Goals with their ratio(学修成果と	その害	割合)			
1.Advan and abil	iced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ····30	esearch capability ····40% 2.Profound in %	er-di	sciplinary know	wledge ····30	% 3.Global perspective	
Туре о	f Class(授業	の形態)	Practice						
Teachir	ng Method(挑 法)	受業の方	Attend the perform pre	Weely Young Investigator Seminar (WYIS) vesentations related to your research.	vhich	involves acros	ss laboratories,	ask questions and	
Course	e Goals(授業	の目的)	Gain skills a Weekly You	nd experience in making presentations an ng Investigator Seminar (WYIS)	d con	nducting scient	tific discussion	s, by attending the	
Course Learning goals(学修 目標) 日標)						sions, by attending the sions, by attending the			
Course	Outline(授業	(の概要)	Presentatio (including i	ns in English (15minutes) and debates (5 r ntroduction, data interpretation, significan	ninute ce an	es) will be con nd discussion)	ducted, in rela	tion to research topics	
				Details for Individual Classes(各回)	の授業	《内容)			
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	of Outline of Cl	ass(内容概略)	
1			Conduct res WYIS semin	search presentations and discussion at the ar	ssion at the Research presentations and scientific discussion by each student				
Estim	nated out-of- study time	class	This course Since the cl	This course consists of content that requires 90 hours of study. Since the class is 60 hours long, the equivalent of 30 hours of prior and post-course study is required.					
Require	ed Textbook ト)	(テキス							
Read	ing List(参考	文献)							
Enrollm	ent Conditio 条件)	ons(履修							
Assessment Methods and Criteria(評価方法・基準)			Evaluation v questions, o presentatio	will be performed based on attendance, ac content of research presentations, technica ns are required	tive p al imp	participation, fr provement. 15	requency with or attendance	which students ask s, and 2 or more	
Language Used in Instruction(使用言語)			English						
Tex Languaş	ktbook/Mate ge(教科書・う 語)	erial 資料の言	English						
Course Work E を	Based on P xperience(実 活かした授う	ractical ≋務経験 ≹)	Not applica	ble					

Course Coding(科 目ナンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7-163-79-1	2025	whole year	Graduate School of Medical Sciences (25650)	1	, 2, 3, 4	2	others		
	Co	ourse Title(Th	- neme)(科目名(講義題目))			Instructor(s)(担当教員)			
Practice IV on Infe	ctious Di	seases and A	IDS(Practice IV on Infectious Diseases and A	AIDS)		SUZU	Shinya		
			Goals with their ratio(学修成果とそ	の割合	う)				
1.Advanced expert and ability to take i	knowleds	ge, skill and r action ····10	esearch capability ····40% 2.Profound inte 0% 4.Social leadership drive ····10%	r-disci	iplinary knov	wledge ····40	% 3.Global perspective		
Type of Class(授業	の形態)	Seminar							
Teaching Method(法)	受業の方	By taking se	eminars presented by invited qualified speak	ærs.					
Course Goals(授業	の目的)	Learn abour lecturers.	t the latest progress in the fields of Infectiou	is Dise	ases, Medic	ine and Life Sc	iences, from external		
Course Learning go 目標)	oals(学修	[A level (A Students ar infectious d [C level (C	水準)] e expected to be exposed by current resear liseases and other basic and clinical medicii :水準)]	ch top ne, as v	ics in vrious well as life s	fields of resea ciences.	rch topics, across from		
Course Outline(授美	€の概要)	Students ca occasional instructors	an take "D1 Medical and Life Science Semi seminar presented by invited speakers and or by instructors' laboratories.	nar" a Invited	and "D2 Le I Speaker Se	arning from Ex minar Series h	perienced Doctor" or or or or or or or or or or or or or		
		_	Details for Individual Classes(各回の	授業内	9容)				
No.(回 Date()	月日)		Class Theme(授業テーマ)		Brie	of Outline of Cl	ass(内容概略)		
1		informed ac	ccordingly	infor	med accord	ingly			
Estimated out-of study time	-class								
Required Textbool ト)	(テキス	Nothing in	particular						
Reading List(参考	(文献)	Nothing in	particular						
Enrollment Conditi 条件)	ons(履修	Nothing in	particular						
Assessment Metho Criteria(評価方法	ods and · 基準)	Students ar students ar	e required to attend more than 15 lectures/ e required to submit essays/reports based c	semin n all le	ars before c ectures atter	ompletion of th nded.	ne Thesis research. Also,		
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)									

Course Codin 目ナンバー	g(科 Ye	ear/Ser m(年度	mester/Ter を・学期)	Faculty Offering Course(時間割所属・ 割コード)	時間	E S Year	Eligible tudent (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7-603-7	9-2	2025w	hole year	Graduate School of Medical Scienc (25660)	es	1,	, 2, 3, 4	10	others	
		Cou	urse Title(Th	ieme)(科目名(講義題目))				Instructor(s)(担当教員)	
Research on	n Infectio	ous Dise	eases and AIDS(Research on Infectious Diseases and AIDS)			DS)	GATANAGA Hiroyuki, MATANO Tetsuro, TACHIKAWA Ai, TANAKA Yasuhito, YASUNAGA Junichirou, SAWA Tomohiro, OSHIUMI Hiroyuki, OKADA Seiji, SUZU Shinya, SATO Yorifumi, IKEDA Terumasa, UENO Takamasa,			
Goals with their ratio(学修成果とその割合)										
1.Advanced ex	pert kno	owledge	e, skill and r	esearch capability ····80% 3.Global p	erspe	ctive a	and ability t	o take initiative	eaction ····20%	
Type of Class	(授業の刑	形態)	Other							
Teaching Metl 法	hod(授業 :)	きの方	Research at	each laboratory and thesis preparation	n					
Course Goals	(授業の目	目的)	Thesis prep committee,	aration; students will report their rese and receive their comments/advices f	arch p or furt	rogres ther re	s to their re search prog	esearch mentor gress.	and interim review	
Course Learni 目村	ng goals 票)	;(学修	[A level (A水準)] Students will perform research and prepare their thesis based on results obtained. Students will also present their research results at domestic/international conference(s) and publish their results in academic journal(s) as scientific paper(s). [C level (C水準)] Students will perform research and prepare their thesis based on results obtained. Students will also present their research results at domestic/international conference(s) and publish their results in academic journal(s) as scientific paper(s).							
Course Outline	e(授業の	•概要)	Students will perform research at their laboratory and prepare their thesis. Students will also have an interim interview, and receive the comments/advices for further research progress, and present their research results at domestic/international conference(s).							
			Details for Individual Classes(各回の授業内容)							
No.(回 D	ate(月日	1)		Class Theme(授業テーマ)			Brie	ef Outline of Cl	ass(内容概略)	
1			Research ar	nd thesis preparation		Rese	arch on Infe	ectious Disease	s and AIDS	
Estimated o study	out-of-cla time	ass	This course Since the cl	consists of content that requires 300 ass is 240 hours long, the equivalent of	hours of 60 h	of stue	dy. of prior and	post-course st	udy is required.	
Required Text ト	tbook(テ)	キス	Nothing in p	particular						
Reading List	t(参考文	献)	Nothing in particular							
Enrollment Co 条件	nditions 牛)	s(履修	By the beginning of third year, students will have an interim interview, the committee of which consists of 3 members, and receive the comments/advices for further research progress.							
Assessment Methods and Criteria(評価方法・基準)			Grade will be assessed based on their research, preparation of thesis and scientific paper, report of research progress at interim interview, and presentation of research results at domestic/international conference(s).							
Language Used in Instruction(使用言語)			English							
/Textbook Language(教科 語	/Materia 書・資料)	al 料の言	English							
Course Based Work Experier を活かし	l on Prac nce(実務 た授業)	ctical 發経験	Not applica	ble						

Course Coding(科 目ナンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)			
RDM7-604-79-2	2025	whole year	Graduate School of Medical Sciences (25670)	1	, 2, 3, 4	2	others			
	Co	ourse Title(Th				Instructor(s)(担当教員)			
Special Researc	h I on Inf	ectious Dise Disea	ases and AIDS(pecial Research I on Infection uses and AIDS)	ıs	GATAN MACHIDA Hiroyuk YASUNAG Hiroyu Yorifun	NAGA Hiroyuki, \ Sinichi, MATA i, TACHIKAWA A Junichirou, S ıki, OKADA Seij ni, IKEDA Terun	MIZUSHIMA Daisuke, NO Tetsuro, YAMAMOTO Ai, TANAKA Yasuhito , AWA Tomohiro, OSHIUMI ii, SUZU Shinya, SATO nasa, UENO Takamasa,			
			Goals with their ratio(学修成果とそ	の割合	う)					
1.Advanced expert	knowledg	ge, skill and r	research capability ····50% 3.Global perspe	ctive a	and ability t	o take initiative	eaction ····50%			
Type of Class(授業	の形態)	Other								
Teaching Method(法)	受業の方	Research ar developing	nd training activities at advanced research fa countries for 6 weeks or longer	cilitie	s in develop	oed countries o	r medical facilities in			
Course Goals(授業	の目的)	High quality advanced r	y research and fostering of world-class resea esearch facilities in developed countries or r	rchers nedica	s through th al facilities i	e research and n developing c	training activities at ountries			
Course Learning go 目標)	oals(学修	[A level (A High quality training act countries [C level (C High quality training act countries	[A level (A水準)] High quality research and cultivation of students as future world-class researchers through the research and training activities at advanced research facilities in developed countries or medical facilities in developing countries [C level (C水準)] High quality research and cultivation of students as future world-class researchers through the research and training activities at advanced research facilities in developed countries or medical facilities in developing countries							
Course Outline(授美	きの概要)	Research ar developing	Research and training activities at advanced research facilities in developed countries or medical facilities in developing countries for 6 weeks or longer							
		-	Details for Individual Classes(各回の	授業内]容)					
No.(回 Date()	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)			
1		Research a	nd training abroad for 6 weeks or longer	Rese	earch and tra	aining abroad				
Estimated out-of study time	-class	This course Since the c	consists of content that requires 60 hours c lass is 48 hours long, the equivalent of 12 ho	of stud	ly. f prior and p	oost-course stu	dy is required.			
Required Textbook ト)	(テキス	Nothing in	particular							
Reading List(参考	(文献)	Nothing in	particular							
Enrollment Conditio 条件)	ons(履修									
Assessment Metho Criteria(評価方法	ods and · 基準)	Grades will	be assessed based on research/training pla	ns anc	d reports aft	er the research	r/training abroad			
Language Use Instruction(使用	d in 言語)	English								
Textbook/Mate Language(教科書 語)	erial 資料の言	English								
Course Based on F Work Experience() を活かした授	Practical 팉務経験 業)	Not applica	ble							

Course Coding(科 目ナンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)			
RDM7-605-79-2	2025	whole year	Graduate School of Medical Sciences (25680)	1	, 2, 3, 4	4	others			
	Co	ourse Title(Th				Instructor(s)(担当教員)			
Special Research	n II on Infe	ectious Disea Disea	ectious Diseases and AIDS(Special Research II on Infect Diseases and AIDS)			NAGA Hiroyuki, \ Sinichi, MATA i, TACHIKAWA A Junichirou, S ıki, OKADA Seij ni, IKEDA Terun	MIZUSHIMA Daisuke, NO Tetsuro, YAMAMOTO Ai, TANAKA Yasuhito , AWA Tomohiro, OSHIUMI ii, SUZU Shinya, SATO nasa, UENO Takamasa,			
			Goals with their ratio(学修成果とそ	の割合	<u></u>)					
1.Advanced expert	knowledg	ge, skill and r	esearch capability ····50% 3.Global perspe	ective	and ability t	o take initiative	eaction ····50%			
Type of Class(授業	の形態)	Practice an	d Training							
Teaching Method(法)	受業の方	Research ar developing	nd training activities at advanced research fa countries for 4 months or longer	acilitie	s in develop	oed countries o	r medical facilities in			
Course Goals(授業	の目的)	High quality advanced r	y research and fostering of world-class resea esearch facilities in developed countries or i	rchers	s through th al facilities i	e research and n developing c	training activities at ountries			
Course Learning go 目標)	oals(学修	[A level (A High quality training act countries [C level (C High quality training act countries	[A level (A水準)] High quality research and cultivation of students as future world-class researchers through the research and training activities at advanced research facilities in developed countries or medical facilities in developing countries [C level (C水準)] High quality research and cultivation of students as future world-class researchers through the research and training activities at advanced research facilities in developed countries or medical facilities in developing countries							
Course Outline(授美	美の概要)	Research ar developing	Research and training activities at advanced research facilities in developed countries or medical facilities in developing countries for 4 months or longer							
			Details for Individual Classes(各回の授業内容)							
No.(回 Date()	∃日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)			
1		Research a	nd training abroad for 4 months or longer	Rese	earch and tra	aining abroad				
Estimated out-of study time	-class	This course Since the c	consists of content that requires 180 hours lass is 120 hours long, the equivalent of 60 l	of stu nours	ıdy. of prior and	post-course st	udy is required.			
Required Textbook ト)	(テキス	Nothing in	particular							
Reading List(参考	(文献)	Nothing in	particular							
Enrollment Conditio 条件)	ons(履修									
Assessment Metho Criteria(評価方法	ods and • 基準)	Grades will	be assessed based on research/training pla	ns and	d reports aft	er the research	r/training abroad			
Language Use Instruction(使用	d in 言語)	English								
Textbook/Material Language(教科書・資料の言 語)										
Course Based on F Work Experience() を活かした授	Practical 実務経験 業)	Not applica	ble							

Endocrinology and Metabolism Course

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)			
RDM7-	122-82-0	2025	whole year	Graduate School of Medical Sciences (22250)	1	, 2, 3, 4	2	others			
		Co	ourse Title(Th	neme)(科目名(講義題目))		Instructor(s)(担当教員)					
		Prac	tical Training	ical Training of Metabolic Medicine() Kenichi, MOROISHI				hiko, YAMAGATA Kazuya, HARA Yoshihiro, TSUJITA OISHI Toshiro			
				Goals with their ratio(学修成果とそ	の割合	(f					
1.Advan and abil	ced expert l ity to take ir	knowledg nitiative a	ge, skill and r action ••••30	esearch capability ·····30% 2.Profound inte % 4.Social leadership drive ····10%	r-disci	plinary kno [,]	wledge ····30	% 3.Global perspective			
Туре о	f Class(授業	の形態)	Practice								
Teachir	ng Method(挡 法)	受業の方	Each trainir lecureted, t report.	ng course will be held in a laboratory in char hen practical handling will be trained. Resul	ge. Fir ts, whi	st, the princ ich will be d	iple of a metho liscussed, must	od or a technique will be be surmarized in a			
Course	e Goals(授業	の目的)	Various exp Medicine, v pharmacolo methods ar background support to r important e Cardiovasce	erimental methods and techniques are apply which is an interdisciplinary research based of ogy, histology and cell biology. For researche d techniques practically. Even for researche d of the experimental methods and techniqu resolve various problems in spesific research xperimental methods and techniques were ular Medicine.	ied in on epic ers in t r outs es, sin fields trained	the field of demiology, he field, it is ide the filed ce it gives u . Principles d in practica	Metabolism an internal medici s required to le l, it is importan is a multilateral and practical p al training of Me	d Cardiovascular ne, pathology, arn such experimental t to understand a l viewpoint and would procedures for several etabolism and			
Course	Learning go 目標)	als(学修	[A level (A Principles a practical tra [C level (C	水準)] nd practical procedures for several importa aining of Metabolism and Cardiovascular Me 水準)]	nt expe dicine	erimental m	ethods and tec	chniques were trained in			
Course	Outline(授業	きの概要)	Following n · Introduct · Introduct · Metabolic · Metabolic · Metabolic · Metabolic · Histologic · Oxidative In this cour selected.	 Following methods and techniques are trained: Introduction of epidemiology: Epidemiological and statistical analysis (Public Health) Introduction of metabolic analysis: Method of analyzing metabolic disease (Molecular Laboratory Medicine) Metabolic analysis 1: Analyzing intracellular signal transduction in response to metabolic changes (Cell Signaling and Metabolic Medicine) Metabolic analysis 2: Measurements of insulin by ELISA (Medical Biochemistry) Metabolic analysis 3: Whole body metabolism, CT (Molecular Genetics) Metabolic analysis 4: Cardiovascular disease model (Cardiovascular Medicine) Histological analysis: Histopathology, Immunohistochemistry (Cell Pathology) Oxidative stress analysis: Measurements of reactive oxygen species (Microbiology) In this course, sessions in Practical training of Developmental Biology and Regenerative Medicine also could be selected. 							
				Details for Individual Classes(各回の授業内容)							
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)			
1			Introductio	n of epidemiology	Epide	emiological	and statistical	analysis (Public Health)			
2			Introductio	n of metabolic analysis	Meth Labo	od of analy ratory Medi	zing metabolic icine)	disease (Molecular			
3			Metabolic a	inalysis 1	Analy meta Medi	yzing intrace bolic chang icine)	intracellular signal transduction in response to changes(Cell Signaling and Metabolic				
4			Metabolic a	nalysis 2	Meas Biocl	surements c hemistry)	of insulin by ELI	SA (Medical			
5			Metabolic a	nalysis 3	Who	le body met	abolism, CT (N	lolecular Genetics)			
6			Metabolic a	nalysis 4	Card	iovascular o	disease model (Cardiovascular Medicine)			
7			Histologica	analysis	Histo	pathology,	Immunohistoc	hemistry (Cell Pathology)			
8			Oxidative st	ress analysis	Meas mark	surement of ers (Microb	oxidative stres iology)	s and inflammatory			
Estim	ated out-of- study time	class			!						
Require	ed Textbook ト)	(テキス	Textbooks a	are not specified, and handouts for each pra	ctice v	vill be distri	buted.				
Read	ing List(参考	文献)									
Enrollm	ent Conditio 条件)	ons(履修									
Assessi Criteri	ment Metho ia(評価方法,	ds and · 基準)	Grading wil comments o	l be based on active class participation and concerning at least 8 sessions sould be sum	discut marize	tion and the d in one or	e final report. Ir two A4 sheets.	the report, results and			
Lar Instr	nguage Used uction(使用)	t in 言語)	Japanese ai	nd English							
Tex Languag	tbook/Mate ge(教科書・う 語)	erial 資料の言	Combinatio	n of Japanese and English							
Course Work Ei を	Based on P xperience(実 活かした授う	ractical ≋務経験 ≹)	Not applica	ble							

Educational Program for extension of healthy life expectancy

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E St Year(ligible tudent (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	-164-79-2	2025\	whole year	Graduate School of Medical Sciences (25790)	1,	2, 3, 4	2	others		
		Сс	ourse Title(Th	neme)(科目名(講義題目))			Instructor(s	s)(担当教員)		
	Spe	cial Lectu	ure I on CMH	IA(G1 Special Lecture I on CMHA)	ARIMA Yuichiro, MIURA Kyoko, YAMAGATA Kazuya, SENOKUCHI Takafumi, MIYAMOTO Hideaki, TAKIZAWA Hitoshi, KUROTAKI Daisuke, TOMIZAWA Kazuhito, Sou Bunketsu, IWAMOTO Kazuya, INOUE Toshihiro, ONO Yusuke					
			Goals with their ratio(学修成果とその割合)							
1.Advan and abil	iced expert k lity to take ir	nowled nitiative a	ge, skill and r action ••••25	esearch capability ····30% 2.Profound inte % 4.Social leadership drive ····5%	r-discip	olinary knov	wledge ····409	% 3.Global perspective		
Туре о	f Class(授業)	の形態)	Lecture							
Teachir	ng Method(挑 法)	受業の方	By taking ac learning. St comprehen the lecture.	dvantage of repeated learning and attendand udents will take a video class, and ask quest sion by submitting a report related to the lea	ce from ions the cture, c	n remote lo ey may hav or by answe	cations, lecture e after the clas ring questions	es will be conducted by e- s. Students will check for presented at the end of		
Course	e Goals(授業)	の目的)	With a rapid bring the he life) as close elucidate th diseases (e. basic know of aging, the medicine.	Ily aging global population due to increased ealthy life expectancy (=the period during w e as possible to the limit life expectancy. In o le basic mechanism of aging in humans and g., diabetes, heart failure, cancer, dementia) edge of aging and aging-related disorders in e pathogenic basis of aging-related diseases	l life ex hich or order to develo). By tal n a wide s, epide	pectancy, i he can live a pextend he perthods king this cla e range of r miology, th	t is medically a a healthy life w althy life expect to prevent and ass, students ar esearch fields, herapeutic strat	nd socially required to ithout disturbing daily stancy, we need to I treat aging-related e encourage to gain a including the physiology egies, and social		
Course Learning goals(学修 目標) [A level (A水準)] The following aims have been excellently achieved. (1) To acquire a basic knowledge of aging and aging-related disorders, including the physiology of aging athogenic basis of aging-related diseases, epidemiology, therapeutic strategies, and social medicine (2) To discuss the latest academic research on aging and healthy longevity. IC level (C水準)] The following aims have been acceptably achieved. (1) To acquire a basic knowledge of aging and aging-related disorders, including the physiology of aging athogenic basis of aging-related diseases, epidemiology, therapeutic strategies, and social medicine (2) To discuss the latest academic research on aging and healthy longevity.						ysiology of aging, the cial medicine. ysiology of aging, the cial medicine.				
Course	Outline(授業	の概要)	Students wi prevention research or CMHRA (ind Research / Epidemiolo	II learn about the physiology of aging as wel and treatment methods). In addition, studer aging and healthy longevity through omnib cluding all research division: Metabolic and Nervous System, Sensory, and Locomotive F gical Research).	l as agi nts will us-style Cardio Researc	ng-related deepen the e lectures p vascular Re h / Animal	diseases (inclu eir understandii provided by the esearch / Canco Models of Agir	ding pathophysiology, ng of latest academic faculty members in er and Stem Cell g Research /		
				Details for Individual Classes(各回の	授業内等	容)				
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	ef Outline of Cla	ass(内容概略)		
1			1st MIURA	A Kyoko【eE-0】	The biology of aging					
2			2nd YAMA	AGATA Kazuya 【eE-0】	Regul	lation of glu	ucose metaboli	sm by insulin		
3			3rd YAMA	GATA Kazuya【eE-0】	Moleo	cular mech	anism of type 2	diabetes		
4			4th YAMA	GATA Kazuya 【eE-0】	Mono	genic form	of diabetes me	ellitus		
5			5th SENO	KUCHI Takafumi 【eE-0】	To ac comp	hieve healt lications ar	hy longevity -Longevity -Longevity -Longevity -Longevity -Longevity -Longevity -Longevity -Longevity -Longevity	earn about diabetic eutic approaches		
6			6th MIYA	MOTO Hideaki【eE-0】	The la	atest advan	ces in gastroin	testinal cancer treatment		
7			7th KURO	TAKI Daisuke【eE-0】	Overv	view of Chro	omatin Structu	re Analysis		
8			8th TAKIZ	AWA Hitoshi【eE-0】	Inflam	nm-aging o	f blood system			
9			9th KURO	TAKI Daisuke【eE-0】	Overv	view of Chro	omatin Structu	re Analysist		
10			10th SON	G Wen-Jie【eE-0】	Learn	ing and me	emory			
11			11th IWA	MOTO Kazuya【eE-0】	Aging disor	related ep	igenetic chang	es and psychiatric		
12			12th INO	JE Toshihiro【eE-0】	Glauc	coma that t	hreatens health	nful longevity		
13			13th ONC	Yusuke [eE-0]	Age-r	elated char	nges in skeletal	muscle and sarcopenia		
14			14th ARIN	1A Yuichiro【eE-0】	Cardi	ovascular c	liseases that in	crease with aging 1		
15			15th ARIN	1A Yuichiro【eE-0】	Cardi	ovascular c	liseases that in	crease with aging 2		
Estim	nated out-of- study time	class	This course frames), 60 lesson.	consists of content that requires 90 hours of hours of pre- and post-study (including repo	of study orts) is	v. Since the required to	lesson is 30 ho deepen the ur	ours (2 hours x 15 nderstanding of the		
Require	ed Textbook ト)	(テキス	No particular textbook. Materials summarizing the points of the lecture will be distributed.							
Read	ing List(参考	文献)	Biology of A The Biology	ging (2nd Edition, by Roger B. McDonald) IS of Senescence: A Translational Approach (I	SBN 97 by Bern	80815345 hard Swyng	671 hedauw) ISBN	9783030151102		
Enrollm	ent Conditic	ons(履修	Have basic	knowledge concerning what is taught in this	course	ə.				

条件)	Have basic knowledge concerning what is taught in this course.
Assessment Methods and Criteria(評価方法・基準)	This class consisted of a series of omnibus lectures by 15 lecturers as listed in the schedule. Evaluation will be done based on active class participation, examination test and/or report for subjects by each lecturer. In order to get credits students have to take more than 2/3 lectures. Grading will be based on the average of top 10 scores among ones obtained by the student.
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 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Year	Eligible Student r(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)
RDM7	-165-79-2	2025\	whole year	Graduate School of Medical Sciences (25800)	1	, 2, 3, 4	2	others
		Co	urse Title(Theme)(科目名(講義題目))					s)(担当教員)
	Spec	ial Lectu	re II on CMH	IA(G2 Special Lecture II on CMHA)		OKI SH Kazuya, S Yoshihiro, MORISH	inya, IWAMOT OU Bunketsu, KADOMATSU IMA Tatuya, CH Shin, NIT	A Kazuya, YAMAGATA ARAKI Kimi, KOMOHARA Tsuyoshi, MASUDA Shota, IUJO Takeshi, FUJIMAKI A Akihiro
				Goals with their ratio(学修成果とそ	の割合)		
1.Advar and abi	nced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ••••20	esearch capability ····35% 2.Profound inte % 4.Social leadership drive ····10%	r-disci	iplinary kno [,]	wledge ····35	% 3.Global perspective
Туре с	of Class(授業	の形態)	Lecture and	l Seminar				
Teachii	ng Method(挑 法)	受業の方	This class c face-to-face PhD plans, studies. Act students are Grades will	an be completed within one year or extende e formats. The student in charge will comme followed by a detailed explanation of their r ive participation in Q&A sessions and discus e required to submit reports for each session be determined based on both presentations	ed ove nce th esearc ssions n, whil s and r	r multiple ye e presentat ch, including is anticipate e presenter reports.	ears to earn cre ion with a self-i g an overview o ed from all part s are exempt fr	dits. Both remote and ntroduction and post- f relevant previous icipants. Non-presenting om this requirement.
Course	e Goals(授業	の目的)	Practical lea public healt	arning of the latest research on the biology o th, epidemiology, research tools, how to con	of agin Iduct r	ig, the mech research, an	anisms of seve d training of pr	ral age-related diseases, esentation etc.
Course	Learning go 目標)	als(学修	[A level (A Students ar presentatio [C level (C Students sh question an	水準)] e expected to have a good understanding o n, actively participate in the question and ar :水準)] ould understand their own research conten id answer session, and submit a report.	f their nswer t, give	own researd session, and a PowerPoi	ch content, give I submit a com nt presentatior	e an excellent PowerPoint prehensive report. 1, participate in the
Course	Outline(授業	(の概要)	In this cours diseases, pu presentatio	se, students will study research on the biolo ublic health, epidemiology, research tools, a n skills through making presentations, engag	gy of a nd lea ging in	aging, the m irn how to c discussions	echanisms of se onduct researc s, and writing re	everal age-related h and improve eports.
				Details for Individual Classes(各回の	授業内]容)		
No.(回)	Date(月	日)		Class Theme(授業テーマ)		Brie	of Outline of Cl	ass(内容概略)
1			Tutorial 1: (Dct. 10th, 6th period (18:30 - 20:00)	Introduction (How to make a presentation)This cl be counted as two classes, and the end of the cla be delayed.			esentation)This class will the end of the class will
2			Tutorial 1: (Oct. 17th, 6th period (18:30 - 20:00)	Students will study the contents of their respective research through presentations, discussions, and rewriting.			
3			Tutorial 1: (Oct. 24th, 6th period (18:30 - 20:00)	Students will study the contents of their resper research through presentations, discussions, a writing.			s of their respective , discussions, and report
4			Tutorial 1: (Oct. 31th, 6th period (18:30 - 20:00)	Students will study the contents of their resp research through presentations, discussions, writing.			s of their respective , discussions, and report
5			Tutorial 1: I	Nov. 7th, 6th period (18:30 - 20:00)	Stud resea writi	ents will stu arch througl ng.	dy the content n presentations	s of their respective , discussions, and report
6			Tutorial 1: I	Nov. 14th, 6th period (18:30 - 20:00)	Stud resea writi	ents will stu arch througl ng.	dy the content n presentations	s of their respective , discussions, and report
7			Tutorial 1: I	Nov. 21th, 6th period (18:30 - 20:00)	Stud resea writi	ents will stu arch througl ng.	dy the content n presentations	s of their respective , discussions, and report
8			Tutorial 1: I	Nov. 28th, 6th period (18:30 - 20:00)	Stud resea writi	ents will stu arch througl ng.	dy the content n presentations	s of their respective , discussions, and report
9Tutorial 1: Dec. 5th, 6th period (18:30 - 20:00)Students will stud research through writing.				dy the content n presentations	s of their respective , discussions, and report			
10			Tutorial 1: [Dec. 12th, 6th period (18:30 - 20:00)	Students will study the contents of their responses of their responses of the study the contents of the state			s of their respective , discussions, and report
11			Tutorial 1: [Dec. 19th, 6th period (18:30 - 20:00)	Students will study the contents of their respective research through presentations, discussions, a writing.			s of their respective , discussions, and report
12			Tutorial 1: J	lan. 9th, 6th period (18:30 - 20:00)	Students will study the contents of their respect research through presentations, discussions, ar writing.			
13			Tutorial 1: J	lan. 16th, 6th period (18:30 - 20:00)	Stud resea writi	ents will stu arch througl ng.	dy the content n presentations	s of their respective , discussions, and report

13		Tutorial 1: Jan. 16th, 6th period (18:30 - 20:00)	This class will be counted as two classes, and the end of the class will be delayed.				
14							
15							
Estim	ated out-of-class study time						
Require	ed Textbook(テキス ト)	None					
Read	ing List(参考文献)	Moodle.					
Enrollm	ent Conditions(履修 条件)	Students should have basic knowledge related to this class.					
Assess Criter	ment Methods and ia(評価方法・基準)	Students must attend over 10 classes within a single year or across multiple years before completing their Thesis research. Additionally, students must deliver at least one PowerPoint presentation. For all classes except the one they present in, students are required to submit essays/reports on the class's presentation via Moodle within one month (for more than 9 classes). Attendance is recorded upon report submission. There will be no final exam.					
		Note: Classes marked as 'counted as two' will be recorded as two attendances/reports in a single session, even if they end later.					
Lar Instr	nguage Used in uction(使用言語)	English					
Tex Languag	tbook/Material ge(教科書・資料の言 語)	English					
Course Work E を	Based on Practical xperience(実務経験 活かした授業)	Not applicable					

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	 Ye	Eligible Student ear(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)			
RDM7	-000-81-2	2025\	whole year	Graduate School of Medical Sciences (25850)	Τ	1, 2, 3, 4	2	others			
		Co	ourse Title(Th	eme)(科目名(講義題目))			Instructor(s)(担当教員)			
Spec	ial Lecture o	on Bioeth	iics (For stud Informatics	ents admitted in 2022 and before)(A1 Mec and Medical Ethics)	lical	KADOOKA	Yasuhiro, KAS Taishi, USU	AOKA Shunji, NAKAMURA KU Koichiro			
	Goals with their ratio(学修成果とその割合)										
1.Advan and abi	1.Advanced expert knowledge, skill and research capability ·····25% 2.Profound inter-disciplinary knowledge ····25% 3.Global perspective and ability to take initiative action ····25% 4.Social leadership drive ····25%										
Туре о	f Class(授業)	の形態)	Lecture and	l Seminar							
Teachir	ng Method(挑 法)	受業の方	The course	is provided by lecture and discussion or e-	Learr	ning using the	moodle or CIT	I Japan.			
Course	e Goals(授業)	の目的)	Medical Informatics and Medical Ethics aims at proper management of health information and ethical problems arose from medical practice. In this course, you learn basic concepts used in this filed, including electronic health records, protection of computer-processed personal data, health care system in Japan and other countries, evaluation of medical care and DPC, problems of abortion, euthanasia and death with dignity, informed consent, principle of ethics. This course serves as introductory for all students as you obtain essential knowledge on medical informatics and medical ethics.								
Course	Learning go 目標)	als(学修	A level (A To be able t C level (C	水準)】 co handle or manage health information ar 水準)】	nd eth	nical problems	s arose from me	edical practice.			
Course Outline(授業の概要) Participants are requested to learn medical ethics through e-learning system offered by the project of Collaborative Institutional Training Initiative (CITI) Japan, or submit a short comment on some lectures, which be ploful to provide positive feed back to the pert session								ssed how the problems derstand the followings: nformation literacy; (4) onsent, privacy and dical service system and the project of some lectures, which will			
				Details for Individual Classes(各回C	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			Yasuhiro Ka Class Orien	idooka 【eEJ-0】 tation and eAPRIN	 Introduction and orientation of this course Responsible Conduct of Research_RCR Research Misconduct_RCR Data Handling_RCR 			of this course earch_RCR			
2			eAPRIN 【e	EJ-0]	 Rules for Collaborative Research_RCR Conflicts of Interest_RCR Authorship_RCR 			arch_RCR			
3			eAPRIN 【e	EJ-0]	What Is Plagiarism?_RCR Communicating Information to the Public_RCF Peer Review(Biomedical)_RCR			to the Public_RCR R			
4	4			EJ-0]	 Mentoring_RCR Managing Public Research Funds_RCR Research Integrity and Research Security_RCR 			unds_RCR rch Security_RCR			
5			eAPRIN 【e	EJ-0]	 Appropriate Use of AI in Research, etcRCR Ethics of Medical and Health Research Involvir Human Subjects I Ethics of Medical and Health Research Involvir Human Subjects II 			earch, etcRCR Research Involving Research Involving			
6			eAPRIN [eEJ-0]			 Review by an Institutional Review Board (IRB)_HSR Handling Personal Information in Research_HSR Genomic and Genetic Analysis Studies in Human Populations_HSR 					
7 eAPRIN [eEJ-0] · Group Harm · Informed Co · Research Su Consideration						Group Harm A Informed Cons Research Subj onsiderations_	rising from Res sent in Researc ects Who Meri HSR	earch_HSR h_HSR t Special			
8	8			eAPRIN [eEJ-0]		 Records-Based Research_HSR Social and Behavioral Research for Biomedical Researchers_HSR International Studies_HSR 					
9			eAPRIN [eEJ-0]			 The Ethics of Pluripotent Stem Cell Research L HSR The Ethics of Pluripotent Stem Cell Research II_HSR Medical and Health Research Involving Human Subjects_HSR 					
10			Taishi Naka	mura and Koichiro Usuku 【eJ-0】	He	Health care system in Japan and in the world					
11			Taishi Naka	mura and Koichiro Usuku 【eEJ-0】	Fu res	ture prospects search and da	s of Electronic ta ware house	medical records, Clinical			
12			Shunji Kasa	oka [eE-0] [eJ-0]	Em Syı	nergency Med ndrome	ical Service Sys	stem, Post-Cardiac Arrest			
13			Shunji Kasa	oka [eE-0] [eJ-0]	Dis	Disaster Medicine, Triage					

14	Yasuhiro Kadooka [eE-0] [eJ-0]	Step up Lecture for Research Ethics (1)					
15	Yasuhiro Kadooka [eE-0] [eJ-0]	Step up Lecture for Research Ethics (2)					
Estimated out-of-class study time	This subject requires 90 hours of study, and the class is equivalent to 60 hours is necessary to deepen the unde	This subject requires 90 hours of study, and the class is 30 hours. Therefore pre- and post-study on tasks equivalent to 60 hours is necessary to deepen the understanding of the class.					
Required Textbook(テキスト)	Textbooks are not specified, and handouts will be distributed by the moodle system.						
Reading List(参考文献)	Provided in the lectures.						
Enrollment Conditions(履修 条件)	No prerequisite.						
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 questions related to the topics dealt with in class to be scored from grade 1 to 5. 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 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)	Applicable						

Course Coding(科 目ナンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	E S Year	Eligible Student (開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7-166-99-2	2025	whole year	Graduate School of Medical Sciences (25810)	1	, 2, 3, 4	2	others		
	Co	ourse Title(Th	•		Instructor(s)(担当教員)			
		Special Prac	tice(Special Practice)		ARIMA Yu	ichiro, YAMAGA TSUJITA	ATA Kazuya, Oike Yuuichi, Kenichi		
			Goals with their ratio(学修成果とう	の割合	ີ)				
1.Advanced expert and ability to take i	knowled nitiative a	ge, skill and r action ••••20	esearch capability ····40% 2.Profound inte 0% 4.Social leadership drive ····10%	er-disci	plinary kno	wledge ····30	% 3.Global perspective		
Type of Class(授業	の形態)	Other							
Teaching Method(法)	授業の方	Students ca Learning fro	an take seminars presented by invited speal om Experienced Doctor").	ers (in	cluding "D1	Medical and L	ife Seminar" and "D2		
Course Goals(授業	の目的)	Students ar expectancy	e encouraged to gain a basic knowledge ab	out agi	ing, aging-re	elated diseases	, and healthy life		
Course Learning go	oals(学修	[A level (A Students ex life expecta	【A level (A水準)】 Students excellently acquired a knowledge about aging/aging-related diseases/ therapeutic strategies for healthy life expectancy, and can discuss about the problems.						
目標)		[C level (C水準)] Students acceptably acquired a knowledge about aging/aging-related diseases/ therapeutic strategies for healthy life expectancy, and can discuss about the problems.							
Course Outline(授	業の概要)	Students ca (including "	an learn about recent advances of the resea D1 Medical and Life Seminar" and "D2 Lear	rch fiel ning fro	ds by taking om Experier	g seminars pres nced Doctor").	ented by invited speakers		
-		-	Details for Individual Classes(各回の	授業内	容)				
No.(回 Date()	月日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)		
1		Research se	eminar	Rese	arch semina	ar by invited sp	eakers		
Estimated out-o study time	f-class	This course frames), 60 lesson.	consists of content that requires 90 hours hours of pre- and post-study (including rep	of stud orts) is	y. Since the required to	lesson is 30 ho deepen the ui	ours (2 hours x 15 nderstanding of the		
Required Textboo ト)	k(テキス	No particular textbook.							
Reading List(参考	昏文献)	Biology of Aging (2nd Edition, by Roger B. McDonald) ISBN 9780815345671 The Biology of Senescence: A Translational Approach (by Bernard Swynghedauw) ISBN 9783030151102							
Enrollment Conditi 条件)	ons(履修	Have basic knowledge concerning what is taught in this course.							
Assessment Meth Criteria(評価方法	ods and ・基準)	Students are required to attend seminars (more than 12 times) presented by invited speakers (including "D1 Medical and Life Seminar" and "D2 Learning from Experienced Doctor") for credit before completion of their Thesis research. Students are also required to write at least 4 essays about the seminars. Students have to submit the essay to the professors in charge within one month by e-mail.							
Language Use Instruction(使用	d in 言語)	Japanese ai	nd English						
Textbook/Mat Language(教科書 語)	erial 資料の言	Combinatio	on of Japanese and English						
Course Based on I Work Experience(を活かした授	Practical 実務経験 業)	Not applica	ble						

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Yea	Eligible Student ar(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7	-167-79-2	2025	whole year	Graduate School of Medical Sciences (25820)		1, 2, 3, 4	2	others		
		Co	ourse Title(Th				Instructor(s)(担当教員)		
		Pra	ctice I on CN	1HA(Practice I on CMHA)		ARIMA Yu	ichiro, YAMAG/ TSUJITA	ATA Kazuya, Oike Yuuichi, A Kenichi		
				Goals with their ratio(学修成果と ⁻	その割	合)				
1.Advan and abil	iced expert l lity to take ir	knowledg nitiative a	ge, skill and r action ••••20	esearch capability ·····40% 2.Profound int 0% 4.Social leadership drive ····10%	er-dis	ciplinary kno	wledge ····30	% 3.Global perspective		
Туре о	f Class(授業	の形態)	Other							
Teachir	ng Method(<u>排</u> 法)	受業の方	Students wi	ill present their research results at a domes	tic co	nferences/m	eeting.			
Course	e Goals(授業	の目的)	Students ca expectancy	n present and discuss their research result) as a first author at a domestic conference	s (e.g. s/mee	aging, aging eting.	-related diseas	es, and healthy life		
Course	Learning go 目標)	als(学修	[A level (A水準)] Students can excellently present and discuss their research results (e.g. about aging, aging-related diseases, and healthy life expectancy) at a domestic conferences/meeting. [C level (C水準)] Students can acceptably present and discuss their research results (e.g. about aging, aging-related diseases, and healthy life expectancy) at a domestic conferences/meeting.							
Course	Outline(授業	¢の概要)	Students ca expectancy	n present and discuss their research result) as a first author at a domestic conference	s (e.g. s/mee	aging, aging eting.	-related diseas	es, and healthy life		
			_	Details for Individual Classes(各回0)授業	内容)				
No.(回)	Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)		
1			Presentatio	n at domestic conferences/meeting.	Pre	sentation at o	domestic confe	erences/meeting.		
Estim	nated out-of- study time	-class	This course frames), 60 lesson.	consists of content that requires 90 hours hours of pre- and post-study (including rep	of stu orts)	dy. Since the is required to	lesson is 30 ho deepen the u	ours (2 hours x 15 nderstanding of the		
Require	ed Textbook ト)	(テキス	No particular textbook.							
Read	ing List(参考	文献)	No particular textbook.							
Enrollm	ent Conditio 条件)	ons(履修	Have basic knowledge concerning what is taught in this course.							
Assess Criter	ment Metho ia(評価方法	ods and · 基準)	(1) Presentation of research results at domestic conferences/meeting. (2) The record of presentation (e.g. abstract) is necessary.							
Lar Instr	nguage Used ruction(使用	d in 言語)	Japanese and English							
Tex Languas	ktbook/Mate ge(教科書・j 語)	erial 資料の言	Combinatio	on of Japanese and English						
Course Work E を	Based on P xperience(手 活かした授う	ractical ≷務経験 業)	Not applica	Not applicable						

(Reference Translation)

Guidelines for Approval of Credits for Practice I on CMHA (Presentation at domestic conferences)

(Purpose)

Article 1

These guidelines prescribe the matters regarding the approval of credits for Practice I on CMHA (hereinafter referred to as "Practice I") offered by the Educational Program for Extension of Healthy Life Expectancy of the Graduate School of Medical Sciences.

(Overview of Practice I)

Article 2

In Practice I, students are required to attend academic conferences, lectures, symposiums, and other academic meetings organized by universities and other academia (excluding those organized by the private sector) held in Japan (hereinafter referred to as "academic conferences"), and credits are granted for oral or poster presentations at academic conferences.

(The number of credits to be granted)

Article 3

In Practice I, a maximum of two (2) credits shall be granted according to the type of academic conference at which the presentation is made, as listed below. However, the judgment as to which academic conferences credits can be granted for shall be made by the chief instructor of Practice I.

- (1) A maximum of two (2) credits is allowed for each oral or poster presentation at a domestic academic conference as the first author of the presentation abstract.
- (2) For presentations at regional conferences (regional meetings, etc.), the maximum number of credits is one (1) per attendance with oral or poster presentation as the first author of the presentation abstract.
- 2 The criteria for the number of credits to be granted shall be as listed in the following table according to the number of days of the academic conferences mentioned in each item of the preceding paragraph.

Academic conference	The number of credits to be granted	Examples of credits to be granted
National	One third $(1/3)$ of one credit is granted for each	• 1-day conference: 2/3
	half day (approximately 5 hours) of the	• 2-day conference: 4/3
	conference period.	• 3 or more-day conference: 2
Regional	One sixth (1/6) of one credit is granted for	• 1-day conference: 1/3
	each half day (approximately 5 hours) of the	• 2-day conference: 2/3
	conference period.	• 3 or more-day conference: 1

*Remarks

(a) In principle, the stipulated maximum number of credits shall be granted for three days of attendance at an academic conference. The rationale for this is that 15 hours of class attendance in lectures and seminar courses at the Graduate School of Medical Sciences is defined as one credit and that as the regular program of academic conferences is from 8:00 a.m. to around 6:00 p.m., three days of attendance at an academic conference is equivalent

to approximately 30 hours of class attendance.

(b) When the academic conference is held online only, the number of days actually attended online should be counted for credits.

(c) When an academic conference is held as a hybrid of on-site and online meeting, and there is a period of streaming service, such period should not be included in the number of days of the conference, but only the number of days held on-site should be counted for credits.

(d) The number of credits for attendance at academic conferences that do not conform to the above-mentioned rules shall be determined by the chief instructor of Practice I.

(Application)

Article 4

When a student wishes to earn credits for Practice I, the documents listed below must be submitted, in principle, during the academic year in which the presentation is made to the Student Affairs Office of the Graduate School of Medical Sciences (hereinafter referred to as the "GSMS Student Affairs Office").

- Application for Approval of Credits for Practice I on CMHA (Presentation at domestic academic conferences) (Form 1)
- (2) A copy of the certificate of participation in the academic conference
- (3) A copy of the conference program containing the applicant's presentation information
- (4) A copy of the conference abstract containing the applicant's name as a leading presenter
- (5) Request for Approval of Credits for Practice I on CMHA (Presentation at domestic academic conferences) (Form 2)

(Submit this form when the applicant has lost any of the required documents above or has participated in an online conference.)

- 2 The application requirements for credits are as follows:
 - (1) The applying student must be the first presenter.
 - (2) The applicant's affiliation must be with Kumamoto University, in principle. If the applicant's affiliation is not with Kumamoto University, the applicant's academic advisor must be included in the presentation as a copresenter.
 - (3) In principle, conferences shall be attended in person. In the case of online attendance, the request form stipulated in (5) of Article 4 must be submitted.

(Screening)

Article 5

The instructor of Practice I shall review the application documents submitted to the GSMS Student Affairs Office and calculate the number of credits requested in accordance with the credit conversion table stipulated in Paragraph 2 of Article 3.

(Approval of Credits)

Article 6

The instructor of Practice I shall approve the credits calculated as in the preceding Article and report the granted

credits to the GSMS Student Affairs Office. When two credits are to be granted, a grade evaluation shall be made at the same time.

2 The number of credits approved in accordance with the preceding paragraph may be accumulated from year to year until two credits are earned. When the total number of credits accumulated reaches two credits, the instructor shall grant the credits and grade the student.

Supplementary Provisions

- 1. These guidelines shall come into effect as of May 29, 2024.
- 2. Only within the academic year 2024, regardless of the provisions of Paragraph 1 of Article 4, students may apply with respect to conferences attended in the past.

Application for Approval of Credits for Practice I on CMHA (Presentation at domestic academic conferences)

		Application Date:	(year/month/day)						
Name:	Year:	Student ID No.:	Department:						
Course Name (If applicable)	:								
Phone number:	Ι	Email address:							
Name of academic conference	e:								
Date of conf. (y/m/d):	-	City and venue of confer	ence:						
Date when the applicant part	icipated in the con	ference (y/m/d): -	(days)						
Presenters' names (all):									
Title of presentation:			Circle Oral or Poster						
The number of credits to be a	applied for approva	al: credits							
*Refer to Article 3 of the Gu	idelines.								
*Refer to Article 3 of the Guidelines. Report on what you have learned through your participation in the academic conference (your own and other presentations). Write at least 200 words within this page.									
Submit this application form	n together with 1)	a copy of the certificate of p	articipation in the academic conference						
2) a copy of the conference	program containii	ng the applicant's presentat	on information, and 3) a copy of t						

(Screening for approval of credits will be conducted by the faculty member in charge of Practice I on CMHA.) When the applicant has lost any of the required documents or has participated in a conference online, Form 2 "Request for Approval of Credits for Practice I on CMHA (Presentation at domestic academic conferences)" should be submitted.

conference abstract containing the applicant's name as a leading presenter to the GSMS Student Affairs Office.

(Form 2)

Request for Approval of Credits for Practice I on CMHA (Presentation at domestic academic conferences)

Student ID No.:

Department:

Student's name (handwritten by student):

Academic advisor's name (handwritten by advisor):

Name of Conference:

Content of Request:

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Ye	Eligible Student ar(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)		
RDM7-	-168-79-2	2025	whole year	Graduate School of Medical Sciences (25830)		1, 2, 3, 4	2	others		
		Co	ourse Title(Th				Instructor(s)(担当教員)		
		Prac	tice II on CN	1HA(Practice II on CMHA)		ARIMA Yu	ichiro, YAMAGA TSUJITA	ATA Kazuya, Oike Yuuichi, A Kenichi		
				Goals with their ratio(学修成果と・	その割	合)				
1.Advan and abil	iced expert l lity to take ir	knowled§ nitiative a	ge, skill and r action ····20	esearch capability ····40% 2.Profound int 0% 4.Social leadership drive ····10%	er-dis	ciplinary kno	wledge ····30	% 3.Global perspective		
Туре о	f Class(授業	の形態)	Other							
Teachir	ng Method(排 法)	受業の方	Students wi	ill present their research results at internati	onal c	conferences/	meeting.			
Course	e Goals(授業	の目的)	Students ca expectancy	n present and discuss their research result) as a first author at international conference	s (e.g. :es/m	aging, age-re eeting.	elated diseases	, and healthy life		
Course Learning goals(学修 目標)			【A level (A水準)】 Students can excellently present and discuss their research results (e.g. aging, aging-related diseases, and healthy life expectancy) at international conferences/meeting. 【C level (C水準)】 Students can acceptably present and discuss their research results (e.g. aging, aging-related diseases, and healthy life expectancy) at international conferences/meeting.							
Course	Outline(授業	きの概要)	Students ca expectancy	n present and discuss their research result) as a first author at international conference	s (e.g. :es/m	aging, age-re eeting.	elated diseases	, and healthy life		
			_	Details for Individual Classes(各回0	D授業	内容)				
No.(回)	Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)		
1			Presentatio	n at international conferences/meeting	Pre	sentation at i	nternational co	onferences/meeting		
Estim	nated out-of- study time	-class	This course frames), 60 lesson.	consists of content that requires 90 hours hours of pre- and post-study (including rep	of stu oorts)	dy. Since the is required to	lesson is 30 ho deepen the u	ours (2 hours x 15 nderstanding of the		
Require	ed Textbook ト)	(テキス	No particular textbook.							
Read	ing List(参考	文献)	No particular textbook.							
Enrollm	ent Conditio 条件)	ons(履修	Have basic knowledge concerning what is taught in this course.							
Assess Criteri	ment Metho ia(評価方法	ods and · 基準)	(1) Presentation of research results at international conferences/meeting. (2) The record of presentation (e.g. abstract) is necessary.							
Lar Instr	nguage Used ruction(使用 ⁻	d in 言語)	Japanese and English							
Tex Languag	ktbook/Mate ge(教科書・う 語)	erial 資料の言	Combinatio	Combination of Japanese and English						
Course Work E を	Based on P xperience(手 活かした授う	ractical ≷務経験 業)	Not applica	Not applicable						

(Reference Translation)

Guidelines for Approval of Credits for Practice II on CMHA (Presentation at international conferences*)

*Academic conferences held outside of Japan

(Purpose)

Article 1

These guidelines prescribe the matters regarding the approval of credits for Practice II on CMHA (hereinafter referred to as "Practice II") offered by the Educational Program for Extension of Healthy Life Expectancy of the Graduate School of Medical Sciences.

(Overview of Practice II)

Article 2

In Practice II, students are required to attend academic conferences, lectures, symposiums, and other academic meetings organized by universities and other academia (excluding those organized by the private sector) held outside of Japan (hereinafter referred to as "academic conferences"), and credits are granted for oral or poster presentations at academic conferences.

(The number of credits to be granted)

Article 3

In Practice II, a maximum of two (2) credits shall be granted according to the type of academic conference at which the presentation is made, as listed below. However, the judgment as to which academic conferences credits can be granted for shall be made by the chief instructor of Practice II.

- (1) A maximum of two (2) credits is allowed for each oral or poster presentation at an international academic conference as the first author of the presentation abstract.
- (2) For presentations at regional conferences (regional meetings, etc.), the maximum number of credits is one (1) per attendance with oral or poster presentation as the first author of the presentation abstract.
- 2 The criteria for the number of credits to be granted shall be as listed in the following table according to the number of days of the academic conferences mentioned in each item of the preceding paragraph.

Academic conference	The number of credits to be granted	Examples of credits to be granted
International conferences	One third $(1/3)$ of one credit is granted for each	• 1-day conference: 2/3
held outside of Japan	half day (approximately 5 hours) of the	• 2-day conference: 4/3
	conference period.	• 3 or more-day conference: 2
Regional conferences	One sixth (1/6) of one credit is granted for	• 1-day conference: 1/3
held outside of Japan	each half day (approximately 5 hours) of the	• 2-day conference: 2/3
	conference period.	• 3 or more-day conference: 1

*Remarks

(a) In principle, the stipulated maximum number of credits shall be granted for three days of attendance at an academic conference. The rationale for this is that 15 hours of class attendance in lectures and seminar courses at the Graduate School of Medical Sciences is defined as one credit and that as the regular program of academic conferences is from 8:00 a.m. to around 6:00 p.m., three days of attendance at an academic conference is equivalent

to approximately 30 hours of class attendance.

(b) When the academic conference is held online only, the number of days actually attended online should be counted for credits.

(c) When an academic conference is held as a hybrid of on-site and online meeting, and there is a period of streaming service, such period should not be included in the number of days of the conference, but only the number of days held on-site should be counted for credits.

(d) The number of credits for attendance at academic conferences that do not conform to the above-mentioned rules shall be determined by the chief instructor of Practice II.

(Application)

Article 4

When a student wishes to earn credits for Practice II, the documents listed below must be submitted, in principle, during the academic year in which the presentation is made to the Student Affairs Office of the Graduate School of Medical Sciences (hereinafter referred to as the "GSMS Student Affairs Office").

- (1) Application for Approval of Credits for Practice II on CMHA (Presentation at international academic conferences) (Form 1)
- (2) A copy of the certificate of participation in the academic conference
- (3) A copy of the conference program containing the applicant's presentation information
- (4) A copy of the conference abstract containing the applicant's name as a leading presenter
- (5) Request for Approval of Credits for Practice II on CMHA (Presentation at international academic conferences) (Form 2)

(Submit this form when the applicant has lost any of the required documents above or has participated in an online conference.)

- 2 The application requirements for credits are as follows:
 - (1) The applying student must be the first presenter.
 - (2) The applicant's affiliation must be with Kumamoto University, in principle. If the applicant's affiliation is not with Kumamoto University, the applicant's academic advisor must be included in the presentation as a copresenter.
 - (3) In principle, conferences shall be attended in person. In the case of online attendance, the request form stipulated in (5) of Article 4 must be submitted.

(Screening)

Article 5

The instructor of Practice II shall review the application documents submitted to the GSMS Student Affairs Office and calculate the number of credits requested in accordance with the credit conversion table stipulated in Paragraph 2 of Article 3.

(Approval of Credits)

Article 6

The instructor of Practice II shall approve the credits calculated as in the preceding Article and report the granted

credits to the GSMS Student Affairs Office. When two credits are to be granted, a grade evaluation shall be made at the same time.

2 The number of credits approved in accordance with the preceding paragraph may be accumulated from year to year until two credits are earned. When the total number of credits accumulated reaches two credits, the instructor shall grant the credits and grade the student.

Supplementary Provisions

- 1. These guidelines shall come into effect as of May 29, 2024.
- 2. Only within the academic year 2024, regardless of the provisions of Paragraph 1 of Article 4, students may apply with respect to conferences attended in the past.

Application for Approval of Credits for Practice II on CMHA (Presentation at international academic conferences)

			Application D	ate:		(year/month/day)			
Name:	Year:	S	tudent ID No.:		Department:				
Course Name (If applicable)	:								
Phone number:		Eı	mail address:						
Name of academic conference	ce:								
Date of conf. (y/m/d):	-		City and venue o	f conferen	ce:				
Date when the applicant part	ticipated in the	e confe	erence (y/m/d):	-	(days)			
Presenters' names (all):									
Title of presentation:					Circle Or	ral or Poster			
The number of credits to be	applied for app	proval	: credits						
Refer to Article 3 of the Gu	idelines.								
Submit this application forr	n together wit	h 1) a	copy of the certific	ate of part	icipation in t	the academic conferen			
a copy of the conference	program cont	aining	g the applicant's p	resentation	n informatio	n, and 3) a copy of			

(Screening for approval of credits will be conducted by the faculty member in charge of Practice I on CMHA.) When the applicant has lost any of the required documents or has participated in a conference online, Form 2 "Request for Approval of Credits for Practice II on CMHA (Presentation at international academic conferences)"

conference abstract containing the applicant's name as a leading presenter to the GSMS Student Affairs Office.

should be submitted.

(Form 2)

Request for Approval of Credits for Practice II on CMHA (Presentation at international academic conferences)

Student ID No.:

Department:

Student's name (handwritten by student):

Academic advisor's name (handwritten by advisor):

Name of Conference:

Content of Request:

Course 目ナ	Coding(科 ンバー)	Year/Se m(年	emester/Ter 度・学期)	Faculty Offering Course(時間割所属・時間 割コード)	Ye	Eligible Student ar(開講年次)	Credits(単位 数)	Weekday and Period(曜 日・時限)	
RDM7-	169-79-2	2025	whole year	Graduate School of Medical Sciences (25840)		1, 2, 3, 4	2	others	
		Co	ourse Title(Th				Instructor(s)(担当教員)	
			Practice	e III on CMHA(-)		OKI Shir	nya, MIURA Kyc Oike Yuuichi, 1	oko, YAMAGATA Kazuya, ISUJITA Kenichi	
				Goals with their ratio(学修成果と	その割]合)			
1.Advano and abili	ced expert l ity to take ir	knowledg nitiative a	ge, skill and r action ••••20	esearch capability ····40% 2.Profound int 0% 4.Social leadership drive ····10%	er-dis	ciplinary kno	wledge ····30	% 3.Global perspective	
Type of	^F Class(授業	の形態)	Other						
Teachin	g Method(<u>排</u> 法)	受業の方	Students wi	ill present their research results at CMHA c).	ross-o	cutting confer	ence (e.g. CMH	1A borderless	
Course	Goals(授業	の目的)	Students wi	ill present and discuss their research result).	s at C	MHA cross-cı	utting conferen	ce (e.g. CMHA borderless	
Course Learning goals(学修 目標)			[A level (A水準)] Students can excellently present and discuss their research results (e.g. aging, aging-related diseases, and healthy life expectancy) at CMHA cross-cutting conferences (e.g. CMHA borderless conference). [C level (C水準)] Students can acceptably present and discuss their research results (e.g. aging, aging-related diseases, and healthy life expectancy) at CMHA cross-cutting conferences (e.g. CMHA borderless conference).						
Course (Outline(授業	きの概要)	Students ca expectancy	an present and discuss their research resul) at CMHA cross-cutting conferences (e.g.	s (e.g CMHA	. aging, aging A borderless c	-related diseas onference).	es, and healthy life	
			-	Details for Individual Classes(各回)	D授業	内容)			
No.(回)	Date(月	3日)		Class Theme(授業テーマ)		Brie	ef Outline of Cl	ass(内容概略)	
1			Presentatio	n at CMHA cross-cutting conference	Pre	esentation at (CMHA cross-cu	itting conference	
Estima	ated out-of- study time	-class							
Require	d Textbook ト)	(テキス	None						
Readi	ng List(参考	文献)	None						
Enrollme	ent Conditio 条件)	ons(履修	Having basic knowledge about this class.						
Assessn Criteria	ment Metho a(評価方法	ods and · 基準)	Presentation of research results at CMHA cross-cutting conference at least one time.						
Lan Instru	guage Used uction(使用 ⁻	d in 言語)	Japanese and English						
Textbook/Material Language(教科書・資料の言 語)			Combination of Japanese and English						
Course Work Ex を注	Based on P (perience(手 活かした授う	ractical ≷務経験 業)	Not applica	ble					