Course Coding(科目ナンバー)	Year/Semester/Term(年度・学期)	Faculty Offering Course(時間割所属・時間割コード)	Eligible Student Year(開講年次)	Credits(単位数)	Weekday and Period(曜日・時限)
RDM7-003-79-2	2026whole year	Graduate School of Medical Sciences (20040)	1, 2, 3, 4	2	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Hematopoietic and Immune Systems(B3 Hematopoietic and Immune Systems)	OSHIUMI Hiroyuki, OGUCHI Hiroto, OKADA Seiji, SASHIDA Goro, SATO Yorifumi, KOGA Saori, OGAWA Minetaro, IRIE Atsushi, SUZU Shinya, TAKIZAWA Hitoshi, NOMURA Takushi

Goals with their ratio(学修成果とその割合)
1.Advanced expert knowledge, skill and research capability ‥‥35% 2.Profound inter-disciplinary knowledge ‥‥35% 3.Global perspective and ability to take initiative action ‥‥20% 4.Social leadership drive ‥‥10%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	Omnibus lecures. E-learning contents are available in some lectures in both English and Japanese.
Course Goals(授業の目的)	The goal of this lecture series is to understand the basis of hematopoietic and immune systems, and disruption of these systems (malignancy, immunodeficiency, and immune disorders).
Course Learning goals(学修目標)	【A level (A水準)】 Understand the basics of hematopoietic and immune systems, their development, function, disruption, and related diseases and discuss about recent progress. 【C level (C水準)】 Understand the basics of hematopoietic and immune systems, their development, function, disruption, and related diseases.
Course Outline(授業の概要)	The aims of this lecture series are to understand the followings: (1) The mechanisms how the homeostasis of hematopoietic system is maintained as a stem cell system, (2) The origin of hematopoietic system and the mechanisms of development of hematopoietic stem cells, (3) The animal model bearing human hematopoietic system and applications of this animal model, (4) Aging and tumorigenesis of hematopoietic system, (5) Cell-cell interaction in the immune system, (6) The mechanism of antigen-recognition and the immune response

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		Minetaro Ogawa 【eJ-0】	Ontogeny of hematopoietic system-1
2		Minetaro Ogawa 【eJ-0】	Ontogeny of hematopoietic system-2
3		Saori Koga【eJ-0】	Ontogeny of hematopoietic system-３
4		Seiji Okada 【eJ-0,eE-0】	Differentiation of immune cells
5		Seiji Okada 【eJ-0,eE-0】	Application of Humanized mice
6		Goro Sashida 【eEJ-0】	Molecular mechanism of myeloid malignancies
7		Shinya Suzu 【eEJ-0】	Regulation of Hematopoiesis
8		Hitoshi Takizawa 【eE-0】	Role of inflammation on hematopoiesis
9		Yorifumi Sato 【eEJ-0】	T-cell and retroviral infection
10		Hiroto Ohguchi 【eEJ-0】	Molecular pathogenesis of plasma cell neoplasm
11		Hiroyuki Oshiumi 【eJ-0】	Role of innate immune cells during viral infection
12		Takushi Nomura【eEJ-0】	Flow cytometric analysis for T-cells
13		Hiroyuki Oshiumi 【eJ-0】	Development and function of innate lymphoid cells
14		Takushi Nomura 【eEJ-0】	T-cell responses in SARS-CoV-2 infection
15		Atsushi Irie 【eJ-0】	B cell development and function

Estimated 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)	・"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
Enrollment Conditions(履修条件)	
Assessment Methods and Criteria(評価方法・基準)	Achievement of the Objectives will be evaluated by active class participation and the reports, of which the theme will be specified after the lectures. Grading will be based on the student's understanding of the course subject matter. The students' understanding will be evaluated on the basis of the reports and brief examinations. Final grades will be based on the average of the best 10 scores of the reports and brief examinations as well as the participation in class discussions.
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