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)
RDM7-026-79-1	2025whole year	Graduate School of Medical Sciences (22160)	1, 2, 3, 4	2	others

Course Title(Theme)(科目名(講義題目))	Instructor(s)(担当教員)
Special Lecture "Tokuron" on Transplantation immunology(E3)	OSHIUMI Hiroyuki, IRIE Atsushi, Hibi Taizou, Takashima Ken

Goals with their ratio(学修成果とその割合)

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%

Type of Class(授業の形態)	Lecture
Teaching Method(授業の方法)	PowerPoint and/or OHP 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.
Course Goals(授業の目的)	The goals of this lecture are to understand the followings: (1) The mechanism of rejection in allo-transplantation (2) Allo-antigens that induce allo-reactivity (3) The structure and function of human major histocompatibility complex (HLA) (4) Basic immunology and clinical immuno-regulation therapy to avoid graft-rejection (5) Current status and future direction of transplantation medicine
Course Learning goals(学修目標)	【A level (A水準)】 Understanding of the mechanisms of rejection in allo-transplantation, the structures of major histocompatibility complexes and the basics in clinical immuno-regulation therapy and transplantation medicine 【C level (C水準)】
Course Outline(授業の概要)	To treat the patients, transplantation of the cells, tissues, or organs obtained from donors is broadly carried out. However, there are structural differences of proteins, lipids, and sugars between different individuals of the same species, due to genetic polymorphism. Therefore, following the transplantation of a graft obtained from an allogeneic donor, the recipient immune system is activated by such polymorphic molecules and reject the graft. Among such allogeneic antigens, MHC are the strongest in stimulating allo-reactive immune response. We will lecture on the basic and clinical immunology related to the methodology to avoid such rejection. In addition, we will provide the latest information on the issue of clinical transplantation and regenerative medicine. We will lecture on the transplantation immunology at the level of cells, tissues, and organs, from the viewpoint of both basic and clinical medicine, including recent advances in the research by the instructors.

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		Hiroyuki Oshiumi　eE-J0, eJ-0	Introduction to Innate Immunity
2		Hiroyuki Oshiumi eE-J0, eJ-0	Introduction to Adaptive Immunity
3	10/27	Mon 4th period, Atsushi Irie	Polymorphism of MHC and T cell- activation signals
4	11/10	Mon 4th period, Atsushi Irie	Recognition of alloantigens by T cells
5		Hiroyuki Oshiumi eE-J0, eJ-0	Anti-Tumor Immune Response
6	12/01	Mon 4th period, Atsushi Irie	Major and minor histocompatibility antigens
7	12/08	Mon 4th period, Atsushi Irie	Immune response and dendritic cells
8	12/15	Mon 4th period, Atsushi Irie	Cytokine and Chemokine
9		Hiroyuki Oshiumi eE-J0, eJ-0	Humoral Factors regulating Immunity
10	01/05	Mon 4th period, Ken Takashima	Immune tolerance
11		Hiroyuki Oshiumi, eE-J0, eJ-0	Host immune responses to grafts
12		Hiroyuki Oshiumi eE-J0, eJ-0	Immune senescence and Inflammaging
13		Ken Takashima eE-J0, eJ-0	Immunosuppressant and transplantation
14		Taizo Hibi eE-J0, eJ-0	Transplantation in Japan and the world
15		Taizo Hibi eE-J0, eJ-0	Liver transplant from living donor

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, 2004 ・"Janeway’s Immunobiology Seventh Edition" by Kenneth Murphy, Paul Travers, Mark Walport. Garland Science, Taylor & Francis Group LLC. New York and Abingdon, 2008. ・”A history of transplantation immunology” (Leslie Brent) Academic Press 1997
Enrollment Conditions(履修条件)	It is recommended for you to read a syllabus and indicated recommended readings in advance.
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 related to the topics dealt with in the class to be scored from 0 to 100. 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)	Japanese and English
Textbook/Material	Combination 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