Course number	U-LAS70 10002 SE50				
Course title (and course title in English)	ILAS Seminar-E2 :Decoding the Fundamentals of Cancer Biology（がんの生物学） ILAS Seminar-E2 :Decoding the Fundamentals of Cancer Biology	Instructor's name, job title, and department of affiliation	Graduate School of Medicine Professor,THUMKEO， Dean		
Group	Seminars in Liberal Arts and Sciences	Number of credits	2	Number of weekly time blocks	1
Class style	seminar (Face-to-face course)	Year/semesters	2025・First semester	Quota (Freshman)	9 (9)
Target year	Mainly 1st year students	Eligible students	For all majors	Days and periods	Tue.5
Classroom	12, Yoshida-South Campus Academic Center Bldg. North Wing	Language of instruction	English		
Keyword	Human Diseases / Medicine / Immunology / Cancer / Biomedical Sciences				

[Overview and purpose of the course]

This ILAS seminar is designed to provide freshmen undergraduate students who are interested in cancer, a brief introduction to biology of cancer and the current therapeutics. Students will start to learn from this seminar about the introduction of molecualr and cellular biology, and then subsequently the biology principles of cancer. Moreover, recent topics on cancer immunotherapy will also be discussed in this seminar. Finally, students will conduct a presentation on their selected paper and discuss about the current and future therapeutics.Also noted that language that is accessible to students without a medical background will be used in this seminar to help their understanding.

[Course objectives]

By participating in this ILAS Seminar, students will gain fundamental knowledge of the current understanding of human cancer.

[Course schedule and contents)]

The seminar comprises interactive lectures, reading circles, and student presentations.

Introduction
1. Central Dogma & basic cell biology
2. Cell cycle and chromatin architecture
3. gene expression
4. The nature of cancer
5. Oncogenes 1
6. Oncogenes 2
7. Ras/Tumor suppressor gene 1: pRb and control of cell cycle
8 Tumor suppressor gene 2: p53 and control of cell cycle
9. Tumor microenvironment and angiogenesis
10. Cancer immunology 1
11. Cancer immunology 2
12. Cancer immunotherapy 1
13. Cancer immunotherapy 2

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14. Summary & Presentation
15. Feedback

Note: The schedule is subject to adjustments based on the number of students and specific needs of the class.

[Course requirements]

None

[Evaluation methods and policy]

Attendance and Active participation to the lectures (60%)
Quality of student presentations and discussions (30%)
A report (10%)

[Textbooks]

Handouts and reading materials will be provided when necessary.

[References, etc.]

（References, etc.）
Robert Weinberg 『the biology of cancer, 3rd edition』（GARLAND Science, 2023）ISBN:978-0-393-88766-2

[Study outside of class (preparation and review)]

I recommend students to confirm the handouts for each lecture and the relevant reference textbook to learn about the lecture content in advance of the class. Handouts for each lecture will be uploaded on PandA few days before each class.

[Other information (office hours, etc.)]

Consultation via email or online meetings such as Zoom is possible. For those students who prefer to discuss directly with the instructor, please arrange appointments by email in advance.

[Essential courses]