

Course number	U-LAS70 10002 SE50				
Course title (and course title in English)	ILAS Seminar-E2 :Frontiers in Theoretical Physics I (理論物理学最前線 I) ILAS Seminar-E2 :Frontiers in Theoretical Physics I	Instructor's name, job title, and department of affiliation	Yukawa Institute for Theoretical Physics Associate Professor, Antonio De Felice		
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	2026 · First semester	Quota (Freshman)	15 (15)
Target year	Mainly 1st year students	Eligible students	For all majors	Days and periods	Wed.5
Classroom	10, Yoshida-South Campus Bldg. No. 4			Language of instruction	English
Keyword	Theoretical Physics / 理論物理学 / modern physics / 現代物理学				

[Overview and purpose of the course]

New discoveries and problems arise constantly in theoretical physics.

We will discuss about the latest achievements, puzzles in the class.

We will then read each week a couple of recent papers appeared on “ Scientific American ” of the subject of astronomy, cosmology, theoretical physics or experiments in particle physics.

Students are given a paper to discuss for the next week.

The students will be divided into groups and will answer some questions regarding the paper.

Each of the groups in turn will report their answers to everyone else.

[Course objectives]

Students will develop critical thinking in a friendly environment.

The point is to understand and think about the message which lies at the core of each paper.

The discussion session will then be an arena to develop students ’ skills to create their own scientific ideas.

Students will be stimulated to have opinions, comments, criticism, questions.

[Course schedule and contents]

14 lectures per semester, no midterm/final exam.

For each lecture papers will be given to students to read for the next week.

Students are supposed to read the paper and prepare for the next week.

Some papers are freshly new papers [from the latest issues of Scientific American], others are from previous years.

[Course requirements]

None

[Evaluation methods and policy]

The method of evaluation merely comes from the interaction, participation and discussion in class.

[Textbooks]

Not used

[References, etc.]

(References, etc.)

Introduced during class

[Study outside of class (preparation and review)]

The students will be given a paper to read a week before class.

Students are then supposed to learn the material [inside each paper] and be able to present to others, to discuss its content with others, and to answer questions regarding the paper itself.

[Other information (office hours, etc.)]

[Essential courses]