

<b>Course number</b>		U-LAS14 10009 LE68					
<b>Course title (and course title in English)</b>		Introduction to Plant Science-E2 Introduction to Plant Science-E2		<b>Instructor's name, job title, and department of affiliation</b>		Graduate School of Science Associate Professor, TAKENAKA, Mizuki	
<b>Group</b>		Natural Sciences		<b>Field(Classification)</b>		Biology(Introduction)	
<b>Language of instruction</b>		English		<b>Old group</b>		Group B	
				<b>Number of credits</b>		2	
<b>Number of weekly time blocks</b>		1		<b>Class style</b>		Lecture (Face-to-face course)	
				<b>Year/semesters</b>		2025・Second semester	
<b>Days and periods</b>		Fri.2		<b>Target year</b>		Mainly 1st & 2nd year students	
				<b>Eligible students</b>		For all majors	
<b>[Overview and purpose of the course]</b>							
<p>In this lecture series, the basics of the survival strategy of plants will be learned at the cellular and molecular level. Despite that the achievement of plant science are very frequently described in high school textbooks, university students have very few opportunities to study them unless they specifically learn plant physiology. In this classes, the contents of plant science, which are mentioned only widely and shallowly at high school level will be provided more deeply with the latest knowledge.</p> <p>【内容説明】この講義シリーズでは、植物の生存戦略の基本を細胞・分子レベルで学ぶ。植物科学の成果は高校の教科書には頻繁に記述されているにもかかわらず、大学では植物生理学を特別に学ばない限り、ほとんど学ぶ機会がない。本授業では、高校レベルでは広く浅くしか触れられていない植物科学の内容を、最新の知識を加えながらより深く学べる。</p>							
<b>[Course objectives]</b>							
<p>To understand the fundamentals of plant physiology</p> <p>To understand how plants use light-energy.</p> <p>To understand the signal transduction in plants.</p> <p>To understand the basics of plant development and reproduction</p>							
<b>[Course schedule and contents)]</b>							
<p>1)Plant and cell architecture</p> <p>2)Genome structure and gene expression</p> <p>3)Water in plants</p> <p>4)Mineral Nutrition</p> <p>5)Photosynthesis</p> <p>6)Cell wall</p> <p>7)Signal transduction</p> <p>8)Embryogenesis</p> <p>9)Seed dormancy germination and seedling</p> <p>10)Vegetative growth and organogenesis</p> <p>11)Flower controlling</p> <p>12)Gametophytes pollination , seeds, and fruits</p> <p>13)Plant senescence and cell death</p> <p>14)Biotic and Abiotic interaction</p> <p>15)A final written exam</p>							
<div style="text-align: right;">Continue to Introduction to Plant Science-E2(2)</div>							

## Introduction to Plant Science-E2(2)

16)An oral exam and feedback

### [Course requirements]

This course is open to all students, BUT it is recommended that students have at least a high school "basic biology" level of knowledge.

### [Evaluation methods and policy]

Class attendance and active participation (20%), weekly small tests (30%) an oral exam (25%) and a final written exam (25%)

### [Textbooks]

Lincoln Taiz et al. 『Plant Physiology and Development, Sixth Edition』 ( Sinauer ) ISBN:9781605353531

### [References, etc.]

( References, etc. )

Summary of the lecture contents will be provided at the class.

### [Study outside of class (preparation and review)]

Reading the textbook before the lecture will help the students to understand the lecture.

Students should review the textbook after the lecture.

### [Other information (office hours, etc.)]

Contact: mizuki.takenaka@pmg.bot.kyoto-u.ac.jp

Any questions and requests are welcome by prior arrangements via E-mail.

### [Essential courses]

Faculty of Science