

科目ナンバリング		U-LAS70 10002 SE50							
授業科目名 ＜英訳＞		ILAS Seminar-E2 :Sustainable Food Production in the Era of Climate Change and the Role of Interdisciplinary Research（気候変動時代における持続可能な食料生産と学際的研究の役割） ILAS Seminar-E2 :Sustainable Food Production in the Era of Climate Change and the Role of Interdisciplinary Research			担当者所属 職名・氏名		農学研究科 特定准教授 YASIR SERAG ALNOR MOHAMMED SERAG ALNOR		
群	少人数群	単位数	2単位		週コマ数	1コマ		授業形態	ゼミナール（対面授業科目）
開講年度・ 開講期	2024・前期	受講定員 (1回生定員)	25 (10) 人		配当学年	主として1回生		対象学生	全学向
曜時限	水5		教室	共西01			使用言語	英語	
キーワード	Sustainable food production / climate change / Stress resilience / Plant breeding								
【授業の概要・目的】									
This course is designed to provide knowledge on food production and the challenges of food production under changing climate. The students will learn about the concept of climate change and its effect on food production, the basics of plant breeding techniques, plant and environment interaction, sustainable food production, the role of plant breeding in climate change mitigation and resilience, the concept of integrated plant breeding, and how different knowledge can be integrated with plant breeding to provide solutions to the food security problems.									
【到達目標】									
Understand what is plant breeding and what is climate change Understand the basics of plant environment interaction Gain knowledge of the concept of sustainable food production Understand the importance of an integrated research approach Think out how to provide integrated solutions to sustainable food production									
【授業計画と内容】									
1. Definition of plant breeding 1.1 Introduction 1.2 Basic plant biology 2. Plant breeding techniques 1 2.1 Breeding in self-pollinated crops 2.2 Breeding in cross-pollinated crops 3. Plant breeding techniques 2 3.1 Modern techniques of plant breeding 3.2 Field designs and crop evaluation 4. Climate change and sustainable food production 4.1 What is climate change 4.2 Global impact of climate change on food production 4.3 Importance of sustainability in food production under changing climate 5. Plant environment interaction									

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- 5.1 Definition
- 5.2 Plant response to biotic and abiotic stress
- 5.3 Understanding and evaluating plant response to the environment
- 6. Integrated plant breeding
- 6.1 Definition
- 6.2 Why integrated plant breeding
- 6.3 Significance of integrated plant breeding approach
- 7. Wheat breeding for heat stress tolerance
- 7.1 Impact of high temperature on wheat
- 7.2 Wheat response to temperature
- 7.3 Breeding heat-tolerant wheat cultivars in an integrated approach
- 7.4 Wheat breeding for salinity tolerance
- 7.4.1 Impact of high salinity on wheat
- 7.4.2 Wheat response to salinity
- 7.4.3 Breeding salinity tolerant wheat cultivars in an integrated approach
- 8. General discussion and seminars

【履修要件】

特になし

【成績評価の方法・観点】

Grading: Class attendance and active participation (20%), assignments and quizzes (30%), and final exam or coursework (50%).

【教科書】

未定

Not fixed

Introduced during class

【参考書等】

(参考書)

授業中に紹介する

Introduced during class

Handouts and supplemental readings will be distributed electronically and/or as a hard copy in class

【授業外学修（予習・復習）等】

Students should read or listen to the required pre-class materials and submit any required assignment before the class, and come to class ready to participate in class activities.

【その他（オフィスアワー等）】

No fixed office hours. Students are requested to make appointments directly or by email.