

平成29年度研究科横断型教育プログラム（Aタイプ）授業科目

開講方式	Aタイプ (研究科 開講型)	研究科名	農学研究科	カテゴリー (別表より 原則1つ 選択。)	自然科学総合科目群	横断 区分 (該当 に○)	理系横断型				
授業科目名 (英訳)	食料, エネルギー, 環境の ための産業技術演習 (Seminar on Industrial Technologies for Food, Energy, and Environment)		講義担当者 所属・職名・ 氏名	農学研究科・教授・近藤 直, 准教授・小川雄一, 助 教・鈴木哲仁 企業の技術者		開講 場所	吉田キャンパス				
配当 学年	修士 博士後期	単位 数	2単位	開講年 度・開講 期	前期	曜時間	火1限 (8:45-10:15)	授業 形態	講義 およ び 演習	使用 言語	英語
〔授業の概要・目的〕											
Lectures on cutting-edge technologies are conducted by 14 company men who are invited to this class. Main topics of the lectures are "Food", "Energy", and "Environment" issues. Purposes of this class are to learn Japanese advanced technologies on the three issues, to discuss how to collaborate to produce "Foods and Energy" for increasing people on the earth and to conserve "Environment." It is desirable for students to actively discuss with the lecturers in English. Not only foreign MS students but also Japanese students, and Ph.D students are welcome.											
【研究科横断型教育の概要・目的】											
Since this class is conducted by professional engineers who are working in various companies for contributing food, energy, and environment, students can learn problem solving skills based on multi-discipline subjects from them in the wide regions. This class provides a wide range view for future healthy and affluent life as well as discussions how to collaborate among Asian countries, in order to strengthen leadership with the advanced technology diffusion into Asian countries which are very much growing economically and technologically.											
〔到達目標〕											
Students can learn the established technologies in Agriculture to enhance the problem solving skill, communication ability in English as well as can understand the trade-off relation between food production and environmental conservation which should be considered simultaneously.											
〔授業計画と内容〕											
An example of company lists is shown below: Detail schedule and titles are announced later. Company list is changed from year to year.											
1. Guidance											
2. Caterpillar Japan "Caterpillar products"											
3. Panasonic Corporation. "Panasonic ideas for living: Energy solutions ideas"											
4. NEC Corporation "Fundamentals and Application on Infrared and THz sensors"											
5. Toshiba Corporation "Hydro Turbine"											
6. Espec Co., Ltd. "Green Plant Factory of ESPEC"											
7. Yanmar Co., Ltd. "Combine harvesters"											
8. Satake Japan "Grain sorting and processing machines"											
9. Nabel Company "Auto Egg Packing and Grading System"											
10. Kubota Corporation "Tractors"											
11. Shibuya Seiki Co., Ltd. "Fruit grading and robot vision technologies"											
12. Ishida Co., Ltd. "Factory Automation for the food industry"											
13. Omi Weighing Machine Inc. "Grading systems for fruits and vegetables"											
14. Komatsu Ltd., "Komatsu Innovative Technologies"											
15. Iseki Co., Ltd. "Agricultural Machineries especially on Rice Transplanters"											
〔履修要件〕											
It is desirable to take undergraduate courses "Physical and Biological Properties of Agricultural Products" and "Measurement Science," but it is not indispensable.											
〔成績評価の方法・観点及び達成度〕											
Reports and attitude to each subject are evaluated synthetically.											
〔教科書〕											

Handouts will be distributed. (depends on company)

[参考書等]

Homepage of companies who give lectures

[授業外学修(予習・復習)等]

It is desirable that students learn about the activities and products of companies which provide these classes.

[その他(授業外学習の指示・オフィスアワー等)]

Office hour: 10:30-12:00 on Tuesday at S250. (Just after this class)