

科目ナンバリング							
授業科目名 <英訳>	ILAS Seminar-E2 :Introduction to Environmentally Friendly Chemistry (環境に優しい化学の誘い) ILAS Seminar-E2 :Introduction to Environmentally Friendly Chemistry			担当者所属 職名・氏名	工学研究科 講師 LANDENBERGER, Kira Beth		
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	2025・前期	受講定員 (1回生定員)	25(15)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	1共26			使用言語	英語
キーワード	solvent-free / biocatalysis / toxicity reduction / recycling / sustainable materials						
【授業の概要・目的】							
This course introduces the concept of environmentally friendly chemistry both in the chemistry lab as well as in daily life in the world around us. The course will consider current practices in chemistry, advances in environmentally friendly chemistry and areas for future change. This course aims to familiarize students with practical principles for environmentally friendly chemistry that can be applied in future research or work.							
【到達目標】							
Students will learn about the basics of environmentally friendly chemistry and how to apply it. This includes a discussion of toxic materials and how to reduce their use, the use of other solvents or reduction of current solvents, the effective use of biocatalysts, as well as methods to make the chemistry cleaner and safer in the production of everything from food to paper to household furniture. To engage in the course material more fully, students will prepare a semester project as well as completing occasional tasks outside of class.							
【授業計画と内容】							
Introduction to Environmentally Friendly Chemistry The Chlorine Controversy (2 Seminars) Toxic Heavy Metal Ions Solid Catalyst and Reagents for Ease of Workup Research and Presentations Methods Chemical Separations Working Without Organic Solvents Biocatalysis and Biodiversity Stereochemistry Agrochemicals Chemistry of Longer Wear Chemistry of Recycling Materials for a Sustainable Economy Final Presentations							
【履修要件】							
特になし							

ILAS Seminar-E2 :Introduction to Environmentally Friendly Chemistry (環境に優しい化学の誘い) (2)へ続く

[成績評価の方法・観点]

Class participation and attendance (30%), homework (25%), semester presentation (45%)

[教科書]

使用しない

Handouts will be provided as needed.

[参考書等]

(参考書)

Albert Matlack 『Introduction to Green Chemistry, Second Edition』 (CRC Press) ISBN:9781420078114
(Recommended but not required.)

[授業外学修(予習・復習)等]

Students will be asked to prepare a short oral presentation for the end of the semester. To engage more fully with the class material throughout the semester, students will also occasionally be asked to complete homework.

[その他(オフィスアワー等)]

[主要授業科目(学部・学科名)]