科目ナンバリング	U-LAS70 10002 SE50						
授業科目名<英訳>	ILAS Seminar-E2 :Introduction to Organic Electronics（初心者向け有機エレクトロニクス） ILAS Seminar-E2 :Introduction to Organic Electronics			担当者所属職名・氏名	化学研究所　講師　MURDEY, Richard James		
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	2026・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	火5	教室	共北31			使用言語	英語
キーワード	chemistry / physics / organic materials / semiconductors / molecules						

[授業の概要・目的]

Carbon-based molecules and polymers can behave as electrical insulators, conductors, or semiconductors, which makes them useful materials for electronics. In this seminar course, you will learn why certain molecules conduct electricity, how organic semiconductors are made, and how devices like organic solar cells and organic transistors work. The material is aimed at 1st and 2nd year students interested in learning about science in English. 3rd and 4th year students are also welcome. Seminars are presented in English. Discussion is in English and Japanese.

[到達目標]

This seminar course will give students a general overview of the field of organic electronics.

[授業計画と内容]

1. Introduction
2. Organic molecules and polymers - what makes them semiconductors?
3. Understanding electricity
4. Inorganic vs. organic materials
5. Energy and energy levels
6. Defects and imperfections
7. Fabrication methods
8. Some really basic electronics
9. In-class demo
10. What are electronic devices?
11. Solar cells
12. Lighting and displays
13. Transistors
14. The next frontier...
15. [no class]
16. Feedback

[履修要件]

特になし

ILAS Seminar-E2 :Introduction to Organic Electronics（初心者向け有機エレクトロニクス）(2)へ続く↓↓↓

ILAS Seminar-E2 :Introduction to Organic Electronics（初心者向け有機エレクトロニクス）(2)

[成績評価の方法・観点]

Each lecture will introduce a short homework assignment related to the topic covered. These assignments count for 70% of the final grade. Attendance and class participation count for 30%.

[教科書]

使用しない

[参考書等]

（参考書）
授業中に紹介する

[授業外学修（予習・復習）等]

Weekly assignments reinforce key concepts introduced in the seminars.

[その他（オフィスアワー等）]

[主要授業科目（学部・学科名）]