

科目ナンバリング							
授業科目名 <英訳>	ILAS Seminar-E2 :Animal Biotechnology (動物バイオテクノロジー) ILAS Seminar-E2 :Animal Biotechnology			担当者所属 職名・氏名			
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)	15(15)人	配当学年	主として1回生	対象学生	全学向
曜時限	月5	教室	教育院棟演習室22			使用言語	英語
キーワード	Reproduction / Fertilization / Stem cells / Development						
【授業の概要・目的】							
<p>Biotechnology is the combination of two words, Biology and Technology. Biotechnology enhances the outputs of biological system by technological interventions. Biotechnology has been used for several centuries for example, for brewing of beer or for processing of waste. Animal biotechnology deals with biological techniques that are employed to generate genetically modified animals/livestock with an intention to improve their genetic potential and/or to use them as a bioreactor to produce therapeutic proteins for human health. This lecture will cover topics such as genetic modifications of animals for agriculture and human health, various existing and future technologies for genetic engineering of animals and their future prospective, and ethical issues associated with it.</p>							
【到達目標】							
<p>The purpose of the seminar is to provide practical information of several animal bio-techniques, specifically pertaining to reproductive biotechnology.</p>							
【授業計画と内容】							
1. Introduction 2. Embryo transfer technology (ETT) 3. Artificial insemination (AI) 4. In-vitro fertilization (IVF) (Two weeks) 5. Intra-cytoplasmic sperm injection (ICSI) 6. Cryobiology 7. Somatic cell nuclear transfer (SCNT) (Two weeks) 8. Embryonic stem cells and iPS cells (Two weeks) 9. Transgenic and gene-knock out technology (Two weeks) 10. Ethics 11. Examination 12. Feed Back (To be announced in the class)							
【履修要件】							
特になし							
【成績評価の方法・観点】							
<p>Assessment will be based on student presentations and participation in seminar discussion (50%), and an end-of-semester multiple-choice test to examine understanding of the topics covered (50%).</p>							

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【教科書】

未定

(関連URL)

<http://www.reprod.kais.kyoto-u.ac.jp/>(Laboratory Home Page)

【授業外学修 (予習・復習) 等】

The students will be asked to prepare short talks, which will be given during the course.

【その他 (オフィスアワー等) 】

By appointment(To be announced in the class)