

科目ナンバリング		U-LAS70 10002 SE50					
授業科目名 <英訳>	ILAS Seminar-E2 :Biochemistry Principles ( 生化学の塾 ) ILAS Seminar-E2 :Biochemistry Principles			担当者所属 職名・氏名	医学研究科 助教 Erik WALINDA		
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・後期	受講定員 (1回生定員)	12 (12) 人	配当学年	主として1回生	対象学生	全学向
曜時限	金5	教室	1共21			使用言語	英語
キーワード	Biochemistry / Molecular Biology / Chemistry / Physiology						
【授業の概要・目的】							
<p>The content of the seminar will overall follow the course of that lecture. The difference is that, here we will take time to review and discuss the contents of the lecture. We will answer questions to make sure every student could understand everything they wanted to understand. We will do a lot of quizzes and exercises to dive deeper into the topic to deepen our understanding of the matter. This means that this seminar could be called a "tutorial" to the lecture. The Japanese subtitle 生化学の塾 emphasizes these points.</p> <p>Students are welcome to ask any question at any time. Preferably in class, but also by e-mail, or in additional meetings with me or the teaching assistant (who isa Ph. D student).</p> <p>This seminar is given in English and active student participation is highly encouraged. It is not intended to be a passive class where the student just listens to the instructor's talk.</p>							
【到達目標】							
As all matter is composed of atoms, modern life science aims to explain all aspects of life comprehensively from the atomic level to that of the entire organism. In this seminar, students will attain a profound understanding of the atomic design of life, that is how biomolecules work and join forces to fulfill virtually all actions exerted by living beings.							
【授業計画と内容】							
1. Introduction to biochemistry 2. DNA, genes, and genomes 3. DNA replication and gene expression 4. Proteins 5. Protein structure 6. DNA isolation and analysis 7. DNA cloning and PCR 8. Protein methods 9. Enzymes 10. Enzyme kinetics 11. Carbohydrates 12. Lipids 13. Metabolism 14. Citric acid cycle and oxidative phosphorylation							
Total:14 classes and 1 feedback							
----- ILAS Seminar-E2 :Biochemistry Principles ( 生化学の塾 ) (2)へ続く -----							

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**【履修要件】**

To take this seminar, it is recommended to have some prior knowledge of either general chemistry, organic chemistry, biology or biochemistry or take the lecture [Introduction to biochemistry] given by Prof. Thumkeo or Dr. Candeias on Tuesday. Otherwise, the student will be required to prepare very well before each class using the instructor's notes, the textbook, or handouts of that lecture.

**【成績評価の方法・観点】**

Attendance and active participation [60%]

Homework assignments [40%]

**【教科書】**

Berg, Tymoczko and Stryer 『Biochemistry (any edition)』 ( W. H. Freeman and Co. ) ISBN:978-1-4292-7635-1

You do not have to buy the textbook as it is available at the library.

**【授業外学修（予習・復習）等】**

Biochemical problem questions will be given as homework. In addition, students are invited to prepare their own questions to the instructor in advance.

**【その他（オフィスアワー等）】**

Office hour: any time (please send an email before coming to the office) or online (zoom etc.)