

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
開講年度・ 開講期	2018・後期	受講定員 (1回生定員)	11 (10) 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	共北3C			使用言語	英語
キーワード	Biochemistry / Molecular Biology / Physiology						
【授業の概要・目的】							
<p>In order to take this seminar, it is recommended to have some knowledge of biology or biochemistry or take the lecture [Introduction to biochemistry] at the same time.</p> <p>The content of the seminar is the same as that of the lecture. The difference is that, here we will take time to review and discuss the contents of the lecture. I will answer questions to make sure every student could understand everything they wanted to understand. This means that this seminar is a tutorial to the lecture. The Japanese subtitle 生化学の塾 emphasizes this.</p> <p>Students are welcome to ask any question at any time. We will also solve textbook problems to deepen our understanding of the matter.</p> <p>This seminar is given in English and active student participation is highly encouraged.</p>							
【到達目標】							
<p>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.</p>							
【授業計画と内容】							
<ol style="list-style-type: none"> 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 							
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【履修要件】

特になし

【成績評価の方法・観点及び達成度】

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

【授業外学習（予習・復習）等】

Biochemical textbook problems 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.