

Course number		U-LAS14 20035 LE68					
Course title (and course title in English)		Basic Biology-E2 Basic Biology-E2		Instructor's name, job title, and department of affiliation		Graduate School of Biostudies Associate Professor,GUY, Adam Tsuda	
Group	Natural Sciences			Field(Classification)		Biology(Issues)	
Language of instruction	English			Old group	Group B	Number of credits	2
Number of weekly time blocks	1	Class style	Lecture (Face-to-face course)			Year/semesters	2025 • First semester
Days and periods	Mon.3		Target year	Mainly 1st & 2nd year students		Eligible students	For science students
[Overview and purpose of the course]							
<p>This class will provide a basic introduction to molecular and cell biology, in English. The class is open to 1st and 2nd year students, and will assume some prior familiarity with elementary chemistry and biology, although students from other majors are welcome to attend. The objective for the class is to introduce students to core concepts in biology, the scientific study of living organisms. We will pay attention to some of the similarities in different organisms as well as some of the obvious differences, not only between organisms but between cell types, and at the molecular level of protein functions.</p>							
[Course objectives]							
<p>Students will gain familiarity with the fundamentals of biology, starting with the most basic concepts, considering the chemistry of carbon and water, and the energy processes and the macromolecules that define life.</p> <p>Students will then begin to learn about the cell, and how cellular function depends on complex interactions between proteins, nucleic acids, lipids, and carbohydrates, acting alone, in complexes, or in larger structures such as organelles. Students should begin to appreciate how fundamental processes are conserved over evolutionary time, and also how they vary in different species: the unity and diversity of life.</p>							
[Course schedule and contents)]							
1. Introductory Lecture 2. The Role of Chemistry in Biology 3. Biological Macromolecules I 4. Biological Macromolecules II 5. Energy and Life 6. Cell Structure and Function 7. Lipids and Membranes 8. Cell Respiration 9. Cell Division 10. Central Dogma I 11. Central Dogma II 12. DNA Technology 13. Diversity & Classification of Life 14. Introduction to Evolutionary Biology 15. Final Exam 16. Feedback Class							
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Basic Biology-E2(2)

[Course requirements]

This class is open to all 1st and 2nd year science students, but it requires some basic (high school-level) knowledge of chemistry and biology.

[Evaluation methods and policy]

Lectures will encourage student participation. There will be in-class quizzes and then a final exam to assess comprehension of the concepts of basic biology taught in this course. Evaluation: attendance and student participation: 20%; quizzes: 30%; final exam: 50%.

[Textbooks]

Not used

Lecture handouts will be provided for each class.

[References, etc.]

(References, etc.)

Wasserman, Minorsky, Cain, Urry, Waterman, Stanley & Reece 『Campbell Biology』 (Pearson) ISBN: 9780134082318 (Most of the content of this course is covered in this textbook)

[Study outside of class (preparation and review)]

Students may need 2-3 hours per week to review the lecture material and look up any background information as necessary. Some students may know the subject already, but need to learn the English vocabulary; others may need to learn both Biology and English.

[Other information (office hours, etc.)]

In principle, anytime. Please contact the instructor by e-mail if you have any questions. For consultations about course-related matters outside class hours, please make an appointment directly or by e-mail.