

科目ナンバリング		U-LAS14 20073 LE68									
授業科目名 <英訳>		Microorganisms in our Lives-E2 Microorganisms in our Lives-E2				担当者所属 職名・氏名		医学研究科 准教授 KIM, Minsoo			
群	自然科学科目群			分野(分類)	生物学(各論)			使用言語	英語		
旧群	B群	単位数	2単位	週コマ数	1コマ	授業形態	講義 ( 対面授業科目 )				
開講年度・ 開講期	2025・前期		曜時限	木3		配当学年	主として1・2年生	対象学生	全学向		
【授業の概要・目的】											
<p>Microbiology is the study of microorganisms, such as bacteria, viruses, fungi, and protozoa, which are usually too small to be seen by the naked eye. They are necessary for making various products, such as bread, cheese, beer, and antibiotics, and for numerous biotechnological processes. Of course, microorganisms also cause diseases and impact our everyday lives.</p> <p>The first four lectures of this course provide an introduction to microbiology and consider microbial diversity, metabolism, and genetics. Subsequent lectures focus on specialized topics, including vaccines, antibiotics, host defense systems, and microbial infectious diseases.</p>											
【到達目標】											
<p>To understand the biological differences between microorganisms, such as bacteria, viruses, parasites, and fungi.</p> <p>To understand the roles of microbes in infectious diseases.</p> <p>To gain basic knowledge of the host defense system against microbial diseases.</p>											
【授業計画と内容】											
<ol style="list-style-type: none"> <li>1. History of microbiology</li> <li>2. Introduction to microbial diversity</li> <li>3. Microbial genetics and metabolism</li> <li>4. General characteristics of bacteria</li> <li>5. Commensal bacteria and human health</li> <li>6. Human diseases caused by bacteria</li> <li>7. Control of microorganisms in the environments</li> <li>8. Introduction to viruses</li> <li>9. Evolution of viruses</li> <li>10. Human diseases caused by virus-1</li> <li>11. Human diseases caused by virus-2</li> <li>12. Host defense system to microbes</li> <li>13. Microbial disease control (vaccines and antibiotics)</li> <li>14. Food and industrial microbiology</li> <li>15. Final examination</li> <li>16. Feedback</li> </ol>											
【履修要件】											
The course is open to all students, although a high school level background in biology is recommended.											
----- Microorganisms in our Lives-E2(2)へ続く -----											

## Microorganisms in our Lives-E2(2)

### [成績評価の方法・観点]

Evaluation will be based on class attendance and participation (50%), homework (20%), and exam (30%).

### [教科書]

Michael T. Madigan, Kelly S. Bender, Daniel H. Buckley, W. Matthew Sattley, David A. Stahl 『Brock biology of Microorganisms』 ( Pearson ) ISBN:978-1292235103  
Joanne Willey, Kathleen Sandman, Dorothy Wood 『Prescott's Microbiology』 ( McGraw-Hill Higher Education ) ISBN:978-1260570021

### [参考書等]

( 参考書 )

Bruce Alberts et al. 『Molecular Biology of the Cell』 ( WW Norton ) ISBN: 978-0815344643  
Introduced during class

### [授業外学修 ( 予習・復習 ) 等]

To achieve the course goals, students read the recommended textbooks before the class and review the course handouts.

### [その他 ( オフィスアワー等 ) ]

Please feel free to come to my office at any time

### [主要授業科目 ( 学部・学科名 ) ]