Language: English

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2021 Academic Year Course Description and Syllabus

Course Name	Instructor Name
Microbiology(2credits) [BIOI254] Environmental Microbiology(2credits) [ENES352] Microbiology(2credits) [SESI261]	Sayaka Takase Norio Kurosawa

Course numbers are displayed in blue color after course names.

Semester

Spring Semester

Course Sub Title (for general course and seminors)

Welcome to the microbial world

General Description

The aim of this course is to help students acquire an understanding of the fundamental principles of microbiology.
Course contents: classification of bacteria, structure of bacteria, metabolism and growth of bacteria, classification of virus, structure of virus, viral replication, RNA viruses and DNA viruses, and emerging viruses.

Goals and Objectives

The goals of this course are to obtain basic knowledge on;
(1) taxonomy and structure of microorganisms
(2) classification, structure and replication of bacteria and virus
(3) experimental approach to the study of microorganisms, and
(4) pathogenicity of microorganisms

It also aims to develop students' skill in making oral presentations.

General Education / Faculty Courses: Most relevant Learning Outcomes for this course.

◎ Students are able to learn the knowledge necessary in the specialized field and utilize it.

○ Students are able to have an inquiring mind/intellectual curiosity and collect the related knowledge from a wide range of information media.

Students are able to analyze the issues/problems and solve them through critical/creative thinking.

Students are able to communicate with each other in a group.

○ Students are able to properly describe opinions and claims of their own.

Students are able to actively take an action under their self-management and display their leadership.

Students are able to have a sense of ethics and be aware of the social contribution and responsibility.

Students are able to be conscious of their contribution to the international communities.

Course Syllabus

	Content	
Class 1	Lecture contents	Introduction
	Self-study Assignments	None
Class 2	Lecture contents	History of Microbiology provided by Zoom realtime online
	Self-study Assignments	Answer to the preparation questions and submit by the day before the lec ture day.
Class 3	Lecture contents	Manipulation of Microorganisms provided by Zoom realtime online
	Self-study Assignments	Answer to the preparation questions and submit by the day before the lec ture day.
Class 4	Lecture contents	Taxonomy of Microorganisms provided by online
	Self-study Assignments	Answer to the preparation questions and submit by the day before the lec ture day.
Class 5	Lecture contents	Taxonomy of Microorganisms and Microorganisms living in extreme envir onments provided by Zoom realtime online
	Self-study Assignments	Answer to the preparation questions and submit by the day before the lec ture day.
Class 6	Lecture contents	Cell Structures of Microorganisms provided by Zoom realtime online
	Self-study Assignments	Answer to the preparation questions and submit by the day before the lec ture day.
Class 7	Lecture contents	Nutrition and Growth of Microorganisms provided by Zoom realtime onlin e
	Self-study Assignments	Answer to the preparation questions and submit by the day before the lec ture day.
Class 8	Lecture contents	Metabolism of Microorganisms provided by Zoom realtime online
	Self-study Assignments	Answer to the preparation questions and submit by the day before the lec ture day.
Class 9	Lecture contents	Introduction by Zoom realtime online
	Self-study Assignments	None
Class 10	Lecture contents	History of Virology, General Virology by Zoom realtime online
	Self-study Assignments	Read pp.250 to 257 of the print and create an answer to the questions pr esented on the portal site.
Class 11	Lecture contents	RNA viruses by Zoom realtime online
	Self-study Assignments	Read pp.257 to 260 of the print and create an answer to the questions pr esented on the portal site.
Class 12	Lecture contents	DNA viruses, Emerging viruses(1) by Zoom realtime online
	Self-study	Read pp.260 to 265 of the print and create an answer to the questions pr

	Assignments	esented on the portal site.
Class 13	Lecture contents	Emerging viruses(2), Explanation of Report 2 by Zoom realtime online
	Self-study Assignments	Review about emerging viruses.
Class 14	Lecture contents	Bacteriophages by Zoom realtime online
	Self-study Assignments	Read pp.265 to 271 of the print and create an answer to the questions pr esented on the portal site.
Class 15	Lecture contents	Replication of animal viruses ,Explanation of Report 3 by Zoom realtime online
	Self-study Assignments	Read pp.271 to 275 of the print and create an answer to the questions pr esented on the portal site.

Evaluation/Assessment

Assessment	Percentage	Evaluation Criteria (Explanation)
Final Exam		
Midterm		
Papers	70%	Report 1 (35%), 2 (10%), and 3 (25%). If you do not submit one of the reports, no credit will be given for this class.
Performance/Works		
Continuous Assessment (quizzes, assignments, etc.)	30%	Score of assignments (30%).
Other		

Grading Method:ABC

Course Materials

1. Course materials will be distributed in class as need

Reference Materials

1. 微生物学（基礎生物学テキストシリーズ 4）青木 健次（著）化学同人　ISBN-13: 978-4759811049
2. ブラック微生物学　第2版　Jacquelyn G. Black　著　林　英生・岩本　愛吉・神谷　茂・高橋　秀実　監訳 発行元：丸善出版 【ISBNコード】978-4-621-07808-2

Advice for Prospective Students

Estimated time to prepare and to review for each class session. (incl. assignments, tests, papers, etc) : 3hrs

Implementation of Active Learning

Yes
- Discussion and/or debate

Will you use ICT for class or to support self-learning?

Yes
- Portal site (forum, questionnaire functions)

How to give feedback for assignments (mid-term exams, reports, etc.)

Make time to review or explain in class.
Give feedback via portal site or email regardless of class hours.

Language used in class

Japanese

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Link URL: https://plas.soka.ac.jp/csp/plas/slb.csp?nd=2021&sm=1&mk=11&lc=108665