

講義ユニット名 Title of Lecture	Bacteriology		所属科目名 Title of Course	Biological Responses
講義ユニット責任者 Responsible Instructor	SAKAGUCHI TAKEMASA	所属 Affiliation	Virology (内線 Ext. Number 5157)	
		メール E-mail		
講義ユニットコーディネーター Lecture Coordinator	SUGAI MOTOYUKI	所属 Affiliation	Bacteriology (内線 Ext. Number 5635)	
		メール E-mail		
授業方法 Lesson Style	Lecture-centered course, scheduled to provide handouts. Small tests may be conducted and questionnaires may be circulated. Experiment-centered practical training will also be provided.			
概要 Overview	Bacteria are major pathogenic organisms that cause infections. They escape the host defense mechanisms and sometimes cause serious infections. It once seemed that bacteria, which had historically been a threat to mankind, were controlled by newly developed antibiotics. However, as resistant bacteria emerge, bacterial infections remain a major public health issue. Lectures and practical training sessions in this unit are designed for students to understand the properties and growth mechanisms of bacteria as well as to acquire basic knowledge of infections and their prevention and treatment.			
講義ユニットの到達目標 Academic Goals	<p>Illustrate the structures of bacteria and classify them by shape and stainability.</p> <p>Classify and explain infection routes of bacteria.</p> <p>Explain the mechanisms of bacteria causing diseases.</p> <p>Explain exotoxins and endotoxins.</p> <p>List the bacteriological characteristics of Gram-positive cocci (<i>Staphylococci</i>, <i>Streptococci</i>) and diseases caused by them.</p> <p>List the bacteriological characteristics of Gram-negative cocci (<i>Nisseria gonorrhoeae</i>, <i>Nisseria meningitidis</i>) and diseases caused by them.</p> <p>List the bacteriological characteristics of Gram-positive rods (<i>Clostridium tetani</i>, <i>Clostridium perfringens</i>, <i>Clostridium botulinum</i>, <i>Corynebacterium diphtheriae</i>) and diseases caused by them.</p> <p>List the bacteriological characteristics of Gram-negative rods (<i>Escherichia coli</i>, <i>Shigella</i>, <i>Salmonella</i>, <i>Salmonella typhi</i>, <i>Yersinia pestis</i>, <i>Vibrio cholerae</i>, <i>Bordetella pertussis</i>, <i>Vibrio parahaemolyticus</i>, <i>Pseudomonas aeruginosa</i>, <i>Brucella</i>, <i>Legionella pneumophila</i>, <i>Haemophilus influenzae</i>) and diseases caused by them.</p> <p>List the bacteriological characteristics of Gram-negative Spirilla (<i>Helicobacter pylori</i>)</p>			

	<p>and diseases caused by them.</p> <p>List the bacteriological characteristics of acid-fast bacteria (<i>Mycobacterium tuberculosis</i>, nontuberculous <i>Mycobacteria</i>) and diseases caused by them.</p> <p>List the microbiological characteristics of fungi (<i>Aspergillus</i>, <i>Cryptococcus</i>, <i>Candida</i> and <i>Mucor</i>) and diseases caused by them.</p> <p>List the microbiological characteristics of spirochetes, mycoplasmas, rickettsiae and chlamydiae and disease caused by them.</p> <p>Give an outline of microbial substitution.</p> <p>Explain opportunistic infection.</p> <p>Classify pathogens that cause major infections.</p> <p>Give an outline of bacteriologic diagnosis and serodiagnosis.</p>
<p>講義日程 Class Schedule</p>	See the attached schedule.
<p>出席の取り扱い Class Attendance Policy</p>	Attendance is taken using the Student Attendance Management System but is not included in the eligibility determination for the final examination.
<p>評価項目 Evaluation Item</p>	Achievement level of goals (Basic understanding and application of knowledge) Students must at least meet the requirements for “core curriculum-level understanding” and “a level high enough to pass CBT for Senior students.”
<p>評価法 Evaluation Method</p>	The grading will be evaluated based on the written examination as well as attitudes during practical training, reports on practical training, and positive attitude in classes.
<p>履修上のアドバイス Advice for Taking the Lecture</p>	
<p>推奨参考書 Recommended Reference Books</p>	<p><i>Simple Biseibutsugaku (Concise Text of Microbiology)</i>. revised 5th ed. Azuma M, Oguma K. ed. Nankodo; 2011</p> <p><i>Toda Shin-Saikingaku (Toda's New Bacteriology)</i>. 34th ed. Yoshida S, Yanagi Y, Yoshikai Y. ed. Nanzando; 2013</p> <p>Levinson W. <i>Levinson Biseibutsugaku/Menekigaku (Review of Medical Microbiology and Immunology)</i>. 11th ed. Yoshikai Y, Nishiyama Y. trans-ed. Maruzen Publishing; 2012</p> <p><i>Hyojun Biseibutsugaku (Standard Textbook)</i>. 11th ed. Hiramatsu K, Nakagomi O, Kamiya S. ed. Igakushoin; 2012</p>

	<p><i>Byogen Biseibutsugaku (Pathogenic Microbiology)</i>. 1st ed. Arakawa N, Kamiya S, Yanagi Y. ed. Tokyo Kagaku Dojin; 2014</p>
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