

講義ユニット名 Title of Lecture	Virology		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	SAKAGUCHI TAKEMASA	所属 Affiliation	Virology (内線 Ext. Number 5157)	
		メール E-mail		
授業方法 Lesson Style	Lecture-centered course, scheduled to provide handouts. Small tests and questionnaires may be conducted. Experiment-centered practical training will be provided.			
概要 Overview	Virology is a specialized discipline within pathogenic microbiology. Viruses cause many diseases in humans. Influenza viruses and noroviruses have repeatedly caused outbreaks, becoming social concerns. Lectures and practical training sessions of this unit are designed for students to understand the characteristics of viruses and their growth mechanisms as well as to acquire knowledge of viral diseases and their prevention and treatment.			
講義ユニットの到達目標 Academic Goals	<p>Illustrate the structure of a virion and explain the functions of its parts.</p> <p>Classify viruses by structures and characteristics.</p> <p>Generalize and explain the replication and transcription of DNA and RNA genomes.</p> <p>Explain each of the processes of viral adsorption, penetration, replication, maturation, and release.</p> <p>Explain changes observed in a cell infected with a virus.</p> <p>Explain the species specificity, tissue specificity, and pathogenicity of viral infection.</p> <p>Explain specific examples of major infection modes.</p> <p>Explain the induction and actions of interferons.</p> <p>Explain neutralization and cellular immunity against viruses.</p> <p>Explain the principles of prevention of viral infections with vaccines.</p> <p>Explain the types of vaccines and their potential concerns.</p> <p>List the names of diseases caused by major DNA viruses.</p> <p>List the names of diseases caused by major RNA viruses.</p> <p>Explain the prevalence, prevention, and treatment of influenza virus infections.</p> <p>Explain the characteristics of retroviruses (human immunodeficiency viruses) and their general genomic structure, and classify them.</p>			

講義日程 Class Schedule	See the attached schedule.
出席の取り扱い Class Attendance Policy	Attendance is highly recommended, although we exclude the Student Attendance Management System from consideration.
評価項目 Evaluation Item	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.”
評価法 Evaluation Method	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.
履修上のアドバイス Advice for Taking the Lecture	
推奨参考書 Recommended Reference Books	<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>