

Module Code	21349011	Course Term
Course Subject Name	<b>Applied Cell Biology</b>	<b>Autumn Semester</b>
Course Tutor	<b>William KF TSE</b>	
Credit	2	Taught Day
Schools	School of Agriculture	<b>MON-3</b>
Taught Year	The 3rd year	
Campus	Ito campus	
Subject Area		
Course Subject Classification	Common Basic Subject	
Course Requirements		
Course Requirement (Pre-requisite)	Fundamental cell biology	
<b>Course Outline</b>		
Students learn 'Applied Cell Biology' through class lectures and problem-based learning (PBL).		
<b>key words</b>		
Recombinant DNA technology; Cell regulation; Cell signaling; Cell cycle; Stem cell		
<b>Study Objectives (General)</b>		
This course is designed to learn how to put the facts of cell biology to use—to reason, to predict and to control the behavior of living systems.		
<b>Study Objectives (Specific)</b>		
Specific Goals: We aim to achieve the knowledge on the following aspects:		
A. Modern Recombinant DNA Technology		
B. Tools to study protein		
C. Cellular transport and protein sorting		
D. Control of gene expression and Cell signaling pathways		
E. Cell Cycle regulation and Cancer		
F. Stem Cell		
<b>Course Plan</b>		
Course Plan:		
1-3: Recombinant Technology; restricted enzyme; DNA cloning in bacteria		
3-4: How proteins are studied: Cell culture; protein purification techniques; Western blotting; production and discovery of proteins		
5-6: Regulation of metabolic pathways		
7: Mid-term exam		
8-11: Cell communication: Intracellular compartments and protein transport; Cell signaling pathway		
12-13: Cell Cycle and Cancer		
14: Stem Cell		
15: Final exam		
<b>Course Approaches</b>		
<b>Textbooks</b>		
<b>Reference Books</b>		
Alberts, Bray, Hopkin, Johnson, Lewis, Raff, Roberts and Walter. Essential Cell Biology, Forth Edition		
Office: Room 580, West Zone 5, Faculty of Agriculture.		
<b>Study consultation (office hour)</b>		
Office Hours:		
E-mail: kftse@agr.kyushu-u.ac.jp		
Phone:		
<b>Exams/Results Evaluation Method</b>		
1. Attendance, Presentation, PBL: 40%		
2. Mid-term exam: 20%		
3. Final exam: 40%		
<b>Others</b>		