KOCW Content Development Application

Applicant		Faculty WLI Department WLI Major Chemistry		
	Name	Lik-Ren Tai	Position	Assistant Professor
	Contact		E-mail	
Content	Subject	GENOMICS IN BIOTECHNOLOGY		
	Credit	3		
	Field	Liberal Arts ( ) Social Science ( ) Engineering ( ) Natural Science (X) Education ( ) Medicine or Pharmaceutical Study (X) PE or Art ( )		
	Outline of the Class	See below		
	Weeks	(13) Weeks		

I submit this document for the KOCW Development Project.

2021.04.05 .

Applicant : __Lik-Ren Tai_____ (Sign)

Head of CTL, Woo-Song University

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1. Outline

가. Name of a Class

Class Name	GENOMICS IN BIOTECHNOLOGY		
Semester	Second semester of 2021	**Division**	Major ( ) Liberal Art (X)

나. Goal of a Class

(1) Goal of a Class :

An in-depth introduction to the field of biotechnology with an emphasis in the aspects of genomics.

(2) Introduction :

Ever wondered how antibodies work against viruses or how in-vitro fertilisation (IVF) provides solutions to families having problems in conceiving? Here is the right place! A thorough, in-depth introduction to the field of biotechnology with an emphasis in the aspects of genomics. Students will be acquainted with many important concepts of applied molecular biology, cell biology, embryology, genetics and virology.

Investments into the biopharmaceutical sector by the Korean government has been increasing steadily especially in the recent years. This course is aimed to boost the public knowledge and interest in fundamental and biological sciences.

2. Weekly Plan

Week	Content(Topic)	Learning Objective	How to Operate		
			Methodology	Material	Reference
1	CHAPTER 1: DNA		Lecture	PPT	
2	CHAPTER 2: GENETIC ENGINEERING (PART 1)		Lecture	PPT	
3	CHAPTER 2: GENETIC ENGINEERING (PART 2)		Lecture	PPT	
4	CHAPTER 3: VIRUSES		Lecture	PPT	
5	CHAPTER 4: VACCINES		Lecture	PPT	
6	CHAPTER 5: ANTIBODIES		Lecture	PPT	
7	CHAPTER 6: DISEASES		Lecture	PPT	
8	CHAPTER 7: CANCER		Lecture	PPT	
9	CHAPTER 8: STEM CELLS		Lecture	PPT	
10	CHAPTER 9: EMBRYOS		Lecture	PPT	
11	CHAPTER 10: GENE TARGETING AND CLONING		Lecture	PPT	

12	CHAPTER 11: GENE SEQUENCING		Lecture	PPT	
13	CHAPTER 12: THE HUMAN GENOME		Lecture	PPT	

※ You can freely complete the content sections based on the feature of the class.

3. How are you going to use your class?

For a credit class ( ), For a non-credit class ( ), For a public view (O)

4. Expected Outcome

Students will be exposed and acquainted with the essential introductory topics including:

- DNA, genes, and gene Expression
- Recombinant DNA technology
- Genetic diseases and cancer
- Embryos and stem cells
- Transgenic animals and cloning
- Gene therapy and gene sequencing