

Language: English 

Print

Close

2021 Academic Year Course Description and Syllabus

Course Name	Instructor Name
Developmental Biology(2credits) [ENES356]	Shoko Nishihara
Developmental Biology(2credits) [SESI361]	

Course numbers are displayed in blue color after course names.

Semester Spring Semester

Course Sub Title (for general course and seminars)

Learn the basic concepts and molecular basis of morphogenesis of multicellular organisms from fertil

General Description

Learn the basic concepts and molecular basis of morphogenesis of multicellular organisms from fertilization to early development and organ formation. Beginning with differential regulation of gene expression during development, it proceeds to signal transduction and extracellular matrix. In addition, they learn fertilization, early development, and organ formation, and systematically acquire basic knowledge about the development of living things. Perform a periodic test.

Goals and Objectives

- 1.Explain the differential regulation of gene expression during development.
- 2.Explain signaling in development.
- 3.Explain fertilization.
- 4.Explain the initial occurrence.
- 5.Explain organ formation.

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.

Instructor has work experience in the relative field of this course.

Yes

Years and/or months of work experience

21 year(s)

Detail of Instructor's work experience

Analysis of glycan functions in development

Course Syllabus based on work experience

Embryonic development

Course Syllabus

	Content	
Class 1	Lecture contents	Explanation of the outline of the class
	Self-study Assignments	
Class 2	Lecture contents	Understand development: new organs formation
	Self-study Assignments	Read the corresponding textbook part.
Class 3	Lecture contents	Differential gene expression in development 1
	Self-study Assignments	Read the corresponding textbook part.
Class 4	Lecture contents	Differential gene expression in development 2
	Self-study Assignments	Read the corresponding textbook part.
Class 5	Lecture contents	Intercellular communication in development 1
	Self-study Assignments	Read the corresponding textbook part.
Class 6	Lecture contents	Intercellular communication in development 2
	Self-study Assignments	Read the corresponding textbook part.
Class 7	Lecture contents	Determination of cell fate and early development; fertilization
	Self-study Assignments	Read the corresponding textbook part.
Class 8	Lecture contents	Early development of metazoans; nematodes
	Self-study Assignments	Read the corresponding textbook part.
Class 9	Lecture contents	Early development of Drosophila
	Self-study Assignments	Read the corresponding textbook part.
Class 10	Lecture contents	Drosophila somitogenesis
	Self-study Assignments	Read the corresponding textbook part.
	Lecture	

Class 11	contents	Early development of vertebrates; amphibians
	Self-study Assignments	Read the corresponding textbook part.
Class 12	Lecture contents	exam
	Self-study Assignments	
Class 13	Lecture contents	Early development of mammals
	Self-study Assignments	Read the corresponding textbook part.
Class 14	Lecture contents	From ectoderm to central nervous system and epidermis
	Self-study Assignments	Read the corresponding textbook part.
Class 15	Lecture contents	exam
	Self-study Assignments	

Evaluation/Assessment

Assessment	Percentage	Evaluation Criteria (Explanation)
Final Exam	100%	Final exam
Midterm		
Papers		
Performance/Works		
Continuous Assessment (quizzes, assignments, etc.)		
Other		
Remarks about grading		Perform the exam (added to the final exam) that is performed twice in class.

Grading Method:ABC

Course Materials

1. ギルバート発生生物学 (メディカルサイエンス・インターナショナル)

Classes are conducted according to the textbook.

Reference Materials

nothing special

Advice for Prospective Students

It is desirable to take molecular biology and cell biology.

Estimated time to prepare and to review for each class session. (incl. assignments, tests, papers, etc) : 4hrs

Implementation of Active Learning

Yes

- Others

I sometimes ask questions during class.

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

No

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

Make time to review or explain in class.

Language used in class

Japanese

Print

Close

Link URL: <https://plas.soka.ac.jp/csp/plas/slb.csp?nd=2021&sm=1&mk=11&lc=108671>