

Year	First semester 2026
Course	Molecular and Cellular Biology
Day/Period	Fri.2Period
Credit(s)	2Credits
Instructor	MASAYUKI KOGANEZAWA
Eligible Participants	Not specified (For all grades)
Course code/number	
Main Subjects	
Course of Media Class	
Practical business	
Language Used in Course	English
Course Title	【JYPE】 Molecular and Cellular Biology
Purpose/Abstract	This course offers an introduction to biochemistry, genetics, cell biology, early development, and neurobiology. This course is an omnibus lecture consisting of multiple topics.
Goal	Learn the basic concept of molecular and cellular biology, which is the basis of modern biology. Understand the cell as the basic unit of life; its composition, functions, replication, and differentiation.
Contents and progress schedule of the class	4/17 - Axonal transport and neurological diseases (SHINSUKE NIWA) 4/24 - Germline cell development in animal embryos (GAKU KUMANO) 5/15 - Plant development and cell dynamics (MINAKO UEDA) 5/22- Neural mechanisms of courtship behavior (MASAYUKI KOGANEZAWA) 5/29 - Pattern formation in vertebrates (KOJI TAMURA) 6/5 - Development of the nervous systems (KENTARO ABE) 6/12 - Integrative function of the cerebral cortex (KENICHIRO TSUTSUI) 6/19 - Neural Mechanisms of memory (SHINYA OOHARA) 6/26 - Membrane dynamics in cells (MITSUMORI FUKUDA) 7/3 - Reward, punishment, and neural circuits (HIROMU TANITOMO) 7/10- Molecular biology of plant (RYUSUKE YOKOYAMA) 7/17 - Innate immunity and membrane trafficking (TOMOHIKO TAGUCHI) 7/24 - Comparative social neuroscience (HIDEAKI TAKEUCHI)
Grading	For evaluation, students are required to attend the class, and must submit an essay dealing with a topic covered in one of the lectures.
Books required/referenced	Handouts will be distributed at each lecture.
Contents of preparation and review	Review the handouts and other materials based on the lecture.
Study time for preparation and review	Standard Hours for Preparation/Review per class: *Lectures 4 hour *Seminar 2-4 hour *Experiment, Laboratory Work, and Skill Test 2 hours
How to contact and Google Classroom Code	GoogleClassroom Classcode : 4ljgpwsd
Remarks	
Last Update	

One-credit courses require 45 hours of study. In lecture and exercise-based classes, one credit consists of 15-30 hours of class time and 30-15 hours of preparation and review outside of class. In laboratory, practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of class.