

**Course Information****Course Title:** General Biology I**Course Code:** UFUG1401(L01)**Term:** 2025-2026 Spring**Course Credits:** 3**Grading Type:** Letter Grades**Medium of Instruction/Materials:** English**Prerequisites:** No**Exclusions:** LIFS 1901 or HKDSE Biology Level 3 or above**Teaching Team**

Name	姓名	Role	Email
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**Office hours**Book via <https://klms.hkust-gz.edu.cn/>

Meeting venues: E3-3F-301 (Gu); E4-3F-311 (Zhang); E1-5F-507 (Chen)

**Reading****Reference textbook:** [Inquiry into Life](#)

Additional reading materials will be posted on Canvas.

**Course AI Policy**

The use of AI tools for assignments is allowed, provided that students acknowledge any contributions made by AI in their submissions; failure to do so will be considered a violation of academic integrity.

**Communication and Feedback**

Students will receive their marks and detailed feedback for individual assessed tasks via Canvas within two weeks of the submission deadline. Any questions regarding this feedback or the assigned marks must be raised directly with the instructor within **5 working days** of receiving it. **Formal appeals will not be considered after this period.**

**Academic Integrity**

Students are expected to uphold HKUST(GZ)'s Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to Regulations

for Academic Integrity and Student Conduct for the University's definition of plagiarism and ways to avoid cheating and plagiarism.

### **Course Description**

General Biology I is designed for students interested in understanding life processes and scientific discoveries shaping our knowledge of the natural world. It provides students with an overview of life science: basic characteristics of life, cell biology, essential concepts of genetics, evolution and ecosystems. The course consists of interactive lectures and hands-on lab activities. A special-topic seminar on biological intelligence will also be covered.

### **Course Structure**

This course offers an overview of essential biological concepts, including the fundamental characteristics of life, crucial concepts of cell biology, basic genetics, evolution, and ecosystems. Structured into 3 modules, this course provides a cohesive framework for understanding the interconnectedness of these topics:

**Module 1: Cell Biology** invites students to delve into the microscopic realm of cells, exploring the complex mechanisms that enable trillions of cells to function coordinately, forming the basis of our brain and body.

**Module 2: Genetics** equips students with powerful tools to decode the mysteries of our genome and the role of small molecules in shaping life. Students will explore the principles of heredity, molecular biology, and the genetic underpinnings of diversity.

**Module 3: Evolution and Biodiversity** examines various life forms on Earth, tracing the evolutionary pathways that have led to the development of intelligent species. Students will explore the factors that drive evolution and the unique adaptations that define the organisms we share our planet with.

This course features interactive lectures, hands-on laboratory activities, and a special-topic seminar focused on biological intelligence. Assessments in different formats are designed to evaluate students' comprehension and engagement, and assigned readings will supplement lecture materials to enhance learning. The teaching team welcomes after-class discussions and consultations upon request.

### **Intended Learning Outcomes (ILOs)**

Upon completion of this course, students are expected to be able to:

1. Define the basic characteristics of life and cells.
2. Identify key biomolecules and explain how genes define living beings and affect their behaviour.
3. Describe the interactions of organisms with each other and with the physical environment.
4. Apply the basic knowledge of the characteristics of life, cells, biomolecules and the interactions of organisms to explain essential life processes.
5. Illustrate how life science provides an investigative approach to interpreting the natural world.
6. Obtain a basic understanding of how scientific discoveries are made and communicated.
7. Acquire simple laboratory skills for life science research.

**Weekly Schedule & ILOs**

This course consists of two 80-minute lectures weekly for 10 weeks, two weeks of 3-hour labs (**Week 4 and 9**), and a week of seminars on the special topic (**Week 13**). Extra out-of-class time is required to read textbooks and reading materials, and complete two lab reports (Modules 1 and 2) and an essay (Module 3).

Module	Week	Date (mm/dd)	Format	Topic	Chapter	ILOs	Instructor	
All	1	01/27		Course introduction	-	5, 6	Zhang	
		01/29		Biology: The Study of Life	1	5, 6	Gu	
1	2	02/03	Lecture	The Molecules of Cells	2	1, 5, 6	Zhang	
		02/05						
	3	02/10		Cell Structure and Function	3			
		02/24	Roadshow	Cellular diversity	-			
	4	02/26	Lecture	Life of a cell	5	1, 5, 6		
		03/03		Scientific experiments	-	1, 5, 6		
	5	03/08-14	Lab I	Basic microscopy	-	1, 5, 6, 7		Zhang & Zhang
		TBD	Exam	Module 1 Exam	-	1, 5, 6		Zhang
2	6	03/05	Lecture	Genetic inheritance	23	2, 5, 6	Chen	
		03/17						
	7	03/19		Gene expression	25			
		03/24						
	8	03/26	Group presentation	Biotechnology	26			
		03/31		Biotechnology				
	9	04/05-11	Lab II	DNA extraction	-	2, 5, 6, 7		Chen & Zhang
		TBD	Exam	Module 2 Exam	-	2, 5, 6		Chen
3	10	04/02	Lecture	Evolution	27	3, 4, 5, 6	Gu	
		04/14		Biodiversity	29			
	11	04/16			30			
		04/21		31&32				
	12	04/23	Outdoor activity	Ecology	33&34			
		04/28		Campus biodiversity	-			
	13	04/30	Seminar	Biological intelligence	-		Gu	
		05/07						

Type	Week	Day	Time	Venue
Lecture	1-4, 6-8, 10-12	Tuesday & Thursday	9:00 - 10:20	W1-2F-221
Seminar	13	Tuesday & Thursday	9:00 - 10:20	W1-2F-221
Module 1 exam	5	TBD	TBD	TBD
Module 2 exam	9	TBD	TBD	TBD

### Lab sessions

Type	Week	Venue	Day & Time (check your enrolled session)
Lab I	5	E3-2F-232E (Darwin Lab)	LA01: Tuesday 15:00 - 17:50 LA02: Wednesday 15:00 - 17:50
Lab II	9	E3-2F-232D (Li Shizhen Lab)	LA03: Tuesday 09:00 - 10:50 LA04: Wednesday 10:30 - 13:20

### Assessments

The final course grade is calculated based on individual assessments listed in this table:

Module	Assessment	% Module	% Course	Due Date (mm/dd)*	Make-up allowed? #	ILOs
1	Canvas quiz	10	3.3	To be announced in lectures	No	1, 5
	Group assignment	20	6.7	02/24 (roadshow)	No	1, 5, 6
	Module exam	30	10	To be announced in lectures	Yes	1, 5, 6
	Lab performance	10	3.3	03/08-14 (during lab)	Session swap possible	1, 5, 6, 7
	Lab report	30	10	03/21	No (late submission policy applies)	1, 5, 6
2	Group assignment	30	10	03/31 (group presentation)	Session swapping possible	2, 5, 6
	Module exam	40	13.3	To be announced in lectures	Yes	2, 5, 6
	Lab performance	15	5	04/05-11 (during lab)	Session swap possible	2, 5, 6, 7
	Lab report	15	5	04/18	No (late submission policy applies)	2, 5, 6
3	In-class quiz	15	5	To be announced in lectures	No	3, 4
	Outdoor activity	10	3.3	To be announced in lectures	No	3, 4, 5

	Seminar participation	30	10	To be announced in lectures	Session swap possible	4, 5, 6
	Essay	15	5	To be announced in lectures	No (late submission policy applies)	3, 4, 5, 6
	Module exam	30	10	To be scheduled with final exam	Yes	3, 4, 5, 6

\*Assessment results for individual assessed tasks will be released on Canvas within 2 weeks of the due date. The appeal period is 5 days after the release of results.

### # Make-up Exam Policy

**Module exam:** Students who miss a scheduled module exam due to an approved absence (e.g., documented illness or emergency) may request a make-up exam by formally notifying the instructor(s) promptly and submitting required documentation. However, **only one such make-up exam is permitted** per student for the entire course, and the make-up may differ in format or content from the original to ensure academic integrity and fairness. Repeated absences must be discussed directly with the instructor(s), as further make-ups are not guaranteed.

**Lab attendance:** If you cannot attend your assigned session, please email [gizhang@hkust-gz.edu.cn](mailto:gizhang@hkust-gz.edu.cn) with supporting documents to request a session swap at least one week in advance (no later than 09/21 for Lab I and 11/02 for Lab II).

**Module 2 group presentation:** If you cannot attend your assigned session, please email [xxx@hkust-gz.edu.cn](mailto:xxx@hkust-gz.edu.cn) or the TAs with supporting documents to request a session swap, no later than 10/21.

**Late submission policy:** The late submission policy for lab reports or the essay will be posted on Canvas.

### Final Grade Descriptors

This course will be assessed using criterion-referencing and absolute points, and grades will not be assigned using a curve. General rubrics applied to all assessments are provided below, outlining the criteria used for evaluation. Detailed rubrics for each assessment will be announced during the course.

Grades	Description	Detailed grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of biological concepts and principles, excels in problem-solving and experimental skills, and exhibits significant creativity in applying knowledge to various biological scenarios. Shows exceptional initiative in collaboration and independent research, consistently going beyond core requirements to achieve and exceed learning objectives.
B	Good Performance	Shows a solid understanding of the main biological concepts and principles, competently solves problems and conducts experiments, and effectively analyzes and evaluates biological issues. Displays strong motivation to learn, actively engages in group work, and meets most learning objectives with some depth.
C	Satisfactory Performance	Possesses adequate knowledge of core biological concepts, can competently address familiar problems covered in classes, and demonstrates basic experimental, analytical and critical thinking skills. Shows persistence and effort in completing assignments and engages with learning materials, achieving broadly defined learning goals.

D	Marginal Pass	Has threshold knowledge of essential biological concepts, displays limited problem-solving and experimental abilities, and can make simple judgments about biological phenomena. While the student benefits from the course, there is a need for improvement to develop key skills and enhance understanding in the discipline.
F	Fail	Demonstrates insufficient understanding of biological concepts and lacks essential problem-solving or experimental skills. Shows limited ability to think critically or analytically, exhibits minimal effort towards achieving learning goals, and does not meet the threshold requirements for progression in the field of biology.