Tokyo Metropolitan University

UNDERGRADUATE COURSE OF BIOLOGICAL SCIENCES

TOKYO METROPOLITAN UNIVERSITY

Full undergraduate biology program taught entirely in English

for April 2021 Admission

Introduction

Learn Biological Sciences

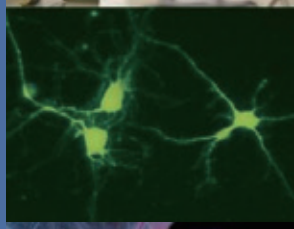
A full undergraduate biology program in English

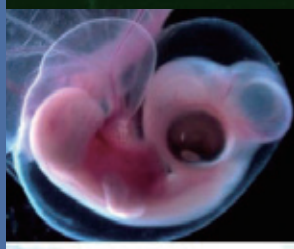
Our understanding of the biological sciences has developed dramatically in the last 30 years. We now understand life as an integrated molecular machine consisting of DNA, proteins, and membranes, which together drive the evolution, ecology, and development of life. Biological scientists can apply such knowledge to solve health issues, manage food and natural resources, and protect the environment, making a major contribution to human society.

We launched the Biology English program in 2015, which provides a full undergraduate biology program in English. Students can earn a bachelor's degree in Biology entirely in English.

By learning Biology in English, you will gain access to a deeper and broader range of information, and the ability to assimilate this information directly without being hindered by translation or the lack of translated text.

Your ability to study and communicate in English is the basis for your research in the senior year and studies in graduate school. Studying biology in English will help you develop these skills. The abilities will also provide a solid basis for work positions anywhere in the world while communicating effectively with the global scientific community.





Join us and discover your passion!

Department Chair:
Prof. Hiroyuki Kawahara

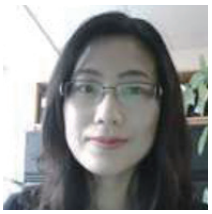
It is my great pleasure to introduce TMU's undergraduate course in the biological sciences, where all lectures and seminars are conducted in English. This course will provide you with a wide range of unique experiences in the field of biology. With our interactive lessons and small class sizes, you will have many opportunities to learn about scientific philosophy, expand your knowledge, develop fundamental experimental skills, and cultivate a mindset of innovation.
To this end, we have designed our curriculum to cover a wide range of basic life sciences, spanning from molecules to cells, individuals to social groups, and local habitats to the global ecosystem. Our areas of research cover all forms of life, from bacteria to fungi, plants, and animals, so I am confident that you will be able to explore any aspect of modern biology and discover your own passion and excellence through cutting-edge research. It is my hope that by exploring different areas of biology, you will find the career path that suits you best. These days, English proficiency is crucial for success in many fields, and biology is no exception. Therefore, I encourage you to take advantage of the opportunities this all-English biology course provides to build a strong foundation for your future career. I am very much looking forward to working with you in this program.

Our Faculty

Prof. Adam L Cronin

1995-1998
Flinders University, Australia
2000-2002
Post doc at Hokkaido University
2002-2003
Post doc University College London
2008-2010
Research Fellow at Universite Pierre et Marie Curie
2011-2014
Research Fellow / Lecturer at Iwate University

"I am originally from Australia but have had the opportunity to work all over the world, and with people of all different cultures, through conducting scientific research.
My research concerns how social organisms function. I study how living in groups allows species to achieve things that individuals cannot alone, and how different social systems can allow species to survive in different environments.
English capability is essential in modern science, and TMU is very lucky to have this degree program entirely in English. I hope you take advantage of it to provide yourself with the best possible basis for your future career."



Prof. Kanae Ando

1996-2001
Graduate school of the University of Tokyo, Pharmaceutical Sciences
2001-2006
Postdoctoral fellow at Cold Spring Harbor Laboratory
2006-2014
Assistant Professor at Thomas Jefferson University

"Are you amazed by the beauty of living creatures and eager to understand them? TMU biological science course provides you the instruction, research experience, and mentoring to help your expedition to discover how life works. Come on board with us to a fascinating journey into biology!
My research goals are to understand the molecular basis of brain functions and to provide fundamental insights into eventual cures for neurological diseases."

Our faculty members are internationally recognized researchers in a variety of research fields, including botany, cell biology, developmental biology, ecology, genetics, microbiology, molecular biology, neuroscience, and zoology. We are also highly experienced in teaching in English.

Research Fields

Kanae Ando	Neuroscience, Neurological Diseases and Aging
Kimiko Fukuda	Developmental Biology, Molecular Mechanisms of Gastrointestinal
Naohito Takatori	Developmental Biology, Cell Polarity, Separation of Germ Layer Fates
Hiroyuki Kawahara	Cell Biology, Biochemistry, Cell Growth and Differentiation
Toshiro Aigaki	Genetics, Molecular Biology, Genome Science
Takaomi Sakai	NeurogeneticscMolecular Genetics of Learning and Memory
Junichi Kato	Molecular Genetics, Bacterial Genome, Bacterial Cell-growth
Shigeki Ehira	Molecular Genetics, Molecular Physiology, Microbial Genome Science
Takashi Okamoto	Plant Developmental Biology, Molecular Cell Biology of Plants
Makoto Kurokawa	Neurobiology, Nervous Control of Behavior
Koichiro Tamura	Evolutionary Genetics, Genome Science, Bioinformatics
Aya Takahashi	Evolutionary Genetics, Speciation, Population Genetics
Masafumi Nozawa	Evolutionary Genetics, Genome Science, Bioinformatics
Takeshi Kanegae	Molecular Cell Biology of Plants, Resonse to Light Environment
Shin Haruta	Environmental Microbiology, Microbial Ecosystem, Applied Microbiology
Fumio Hayashi	Animal ecology, Animal Behavior, Evolutionary Ecology
Yasukazu Okada	Animal Ecology, Evolutionary Ecology, Ecological Embryology
Junichiro Suzuki	Plant Ecology, Population Ecology, Community Ecology
Katsuyuki Eguchi	Animal Taxonomy, Taxonomy of Ants, Biogeography
Adam L Cronin	Behaviorual Ecology, Evolutionary Ecology, Collective Behavior of Social Insects and Others
Noriaki Murakami	Plant Systematics, Evolutionary Biology, Plant Speciation
Yoko Kakugawa	Plant Systematics, Evolutionary Biology, Plant Speciation

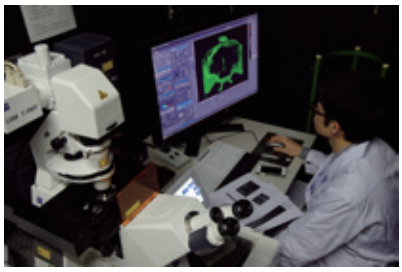
Our Curriculum

Through learning biology, our curriculum nurtures the skills that students need for the future, such as creativity, critical thinking, and collaboration.

Our curriculum is highly experience-based. Almost half of our program is allocated to laboratory courses, research, and field trips.

In the Independent Research course, students conduct their own research project on a research theme they decide and develop themselves. Students organize research groups, plan and carry out experiments and share their findings. Through this course, students learn how to turn their ideas into a structured scientific research.

Our courses incorporate the latest topics and technologies, such as computer literacy, bioinformatics, and e-learning.

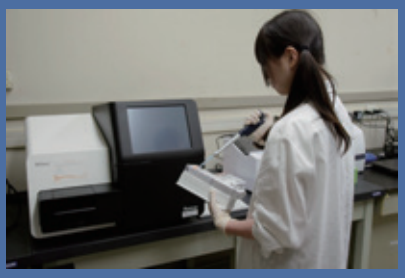


Our Classroom

Most of the courses provided in English have small class sizes of fewer than 20 students. These classes are highly interactive and utilize active learning.

Our classes are international and open to exchange students. Students from various countries are thus able to learn together and exchange ideas. We collaborate with our partner universities all over the world in teaching.

Studying Biology in English, Japanese or Both



Your degree requirements can be made up of any proportion of subjects in Japanese and English. You can take some subjects in English and some in Japanese to earn the credits required to graduate.

Classroom Snapshot

Laboratory Courses in General Biology

Take introductory courses before moving into the more advanced classes and choosing your research fields.

Field Practice of Plant Taxonomy

Experience sampling, handling, identifying and studying organisms in in the field.

Independent Research in Biology

Learn how to turn your ideas into a structured scientific research.

Syllabus & Course

The following is an example of the lectures and laboratory courses that are provided in English.
A variety of humanities courses provided in English can be included in the 124 credits required for graduation.

Model Curriculum

Year 1	Year 2
Basic subjects: Freshman seminar / Information Literacy / English	
General Subjects: Human Biology and other biological subjects, Japanese Language and other humanity subjects	
Laboratory Course in Elementary Biology	Laboratory Course in General Biology
General Biology / General Taxonomy / General Physiology / General Genetics / General Biochemistry	General Developmental Biology / General Ecology / Genetics / Cell Biology / Biochemistry / Neuroscience / Evolutionary Biology / Developmental Biology / Special lecture in Biology
Independent Research Course in Biology	Independent Research Course in Biology
Year 3	**Year 4**
Biochemistry / Molecular Biology / Cell Biology / Genome Science / Biodiversity / Special Lecture in Biology	Graduate Research in Biology
Laboratory Course in Taxonomy / Laboratory Course in Evolutionary Biology / Laboratory Course in Genetics / Laboratory Course in Molecular Biology / Laboratory Course in Physiology / Laboratory Course in Neuroscience / Laboratory Course in Biochemistry / Laboratory Course in Cell Biology / Laboratory Course in Developmental Biology / Laboratory Course in Ecology	
Field Practice of Plant Taxonomy / Field Practice of Animal Taxonomy / Field Work in Ecology / Marine Biology Course (General Biology) / Marine Biology Course (Physiology & Developmental Biology) / Internship in Biology	Special lecture in Biology / Laboratory Course for Radio Isotope in Biology

Syllabus Example

Subject : General physiology

Kanae Ando, Wednesday 14:40-16:10 I0390

Course description:

Multicellular organisms integrate various events in the body at the molecular, cellular, organ, and system levels to sustain life. This course will provide students a conceptual framework for understanding how their bodies work and for dealing with issues relevant to human health in the modern world. By application of biological concepts to familial experiences, this course will help students to see excitement of science and its importance in their lives.

Course objectives and goals :

At the end of this course, students will be able to describe

(1) basic concept of homeostasis, (2) the fundamental concepts of human anatomy and how the body parts work together, and (3) organization of plant body and how internal and external factors regulate their life.

Course format and materials :

Didactic lectures.

Required textbook: Campbell, Biology, A Global Approach, 10th edition (PearsonISBN 978-1292008653)

Recommended textbook: Mader, Human Biology 14th edition (McGraw-Hill, ISBN 978-1-259-25200-6), Levetin E, and McMahon K, Plants and Society (McGraw-Hill, ISBN 9780073524221). Other materials for in-class discussions may be distributed.

Grade :

Class participation 30%, Mid-term exam 35%, Final exam 35%

15 lectures / semester

1	Introduction, Organization and Regulation of Body Systems	9	Cardiovascular System: Heart and Blood Vessels
2	Homeostasis and Endocrine System	10	Cardiovascular System: Blood
3	Skeletal system	11	The Lymphatic and Immune Systems
4	Muscular Systems	12	Immune Systems (cont.)
5	The Plant Cell and Body	13	Respiratory System
6	Life Cycle of Plants	14	Urinary System
7	Digestive system	15	Review and final exam
8	Review and Mid-term exam		

Come Study with Us

Chika Den

3rd year student
English Course
of Biological Sciences

What made me realize the importance of learning a specialized subject in English was the research of fossil plants, which I conducted in high school.
During my research, I had to read many papers. But, it was tough for me to understand because most of them were written in English.
In the present world, most of the latest scientific news and papers are written in English, and it can be said that English is the common language in science. I felt that I had to acquire English skills from my experience, and that is why I chose the Biological Sciences English program at TMU.

In addition, one of the key characteristics of TMU's Biological Sciences English Program is that the lectures are conducted in small groups. Teachers and assistant staff support us well in our studies.
Although I was nervous about taking lectures in English at first, I feel that my English skills have significantly improved compared to last year.
Of course, you can choose to take only part of the courses in English. However, if you decide to take all the courses in English, you can expect to achieve the level of English close to what you may be able to earn overseas.
Why don't you study biological sciences in English with us?

Tokyo Metropolitan University was ranked 7th among Japanese universities, and ranked 3rd in citation impact among Japanese universities (Times Higher Education World University Rankings 2018-2019).

What we look for

We look for students who have:

- the interests in biology, and living organisms.
- the motivation for research and experiments.
- a basic knowledge of English, Chemistry, Physics, and Mathematics.

After Graduation

Many of our graduates proceed directly to graduate school. Others find employment in various career sectors, such as food and beverage, pharmaceutical, medical, education, information technologies, and public relations.

Academic Calendar

April	First Semester starts
July	First Semester Final Exams
October	Second Semester Starts
December	Winter Vacation
January	Second Semester Final Exams
March	Graduation Ceremony

Admission & Tuition

For details contact Admission Division by E-mail : admission-tmu@jmj.tmu.ac.jp

Admission for April 2021

Any students who passed the entrance exam and accepted to the Department of Biological Sciences can choose classes in English.
TMU offers multiple types of entrance exams in Japanese.

-->https://www.tmu.ac.jp/entrance/faculty/index.html

For students who do not speak Japanese, these exams are available.

Category	1st stage of selection	2nd stage of selection
Japanese students	<SAT/ACT Method> ・SAT Reasoning Test score or ACT (+ Optional Writing Test) score ・TOEFL or IELTS academic module score ・Essay form (Statement of Purpose (Motivations)) <IB Method> ・International Baccalaureate final examination score (Estimated score is also applicable.) ・Essay form (Statement of Purpose (Motivations))	・Interview (Oral exam included)
non-Japanese students	<Nationwide university entrance examination> ・Nationwide university entrance examination score including SAT Reasoning Test, ACT (+Optional Writing Test), and International Baccalaureate final examination scores ・TOEFL or IELTS academic module score ・Essay form (Statement of Purpose (Motivations))	・Interview (Oral exam included)

Application will be open in summer.

-->https://www.tmu.ac.jp/english/admission.html

Admission and Fees (As of April, 2020)

Application Fee: 17,000(JPY) / Enrollment Fee: 282,000(JPY) / Tuition Fee: 520,800(JPY) year

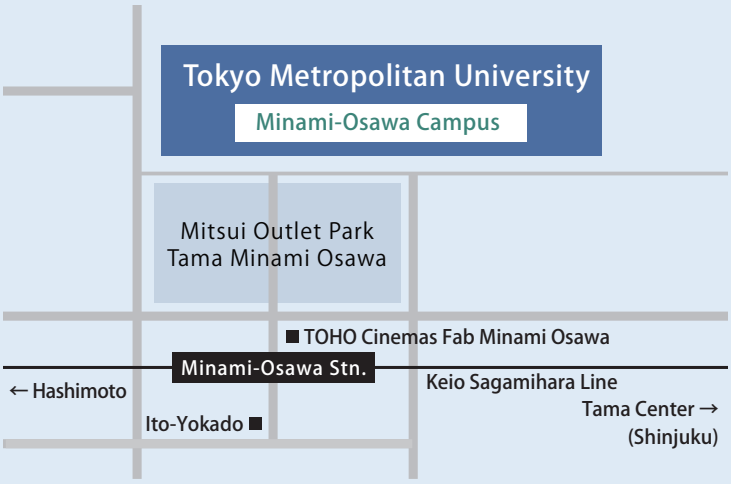
Financial Support

Tuition Fee Reduction and Exemption

Undergraduate students can apply for the full/half exemption and installment payment after entering TMU.

Admissions Office :

+81 42 677 1111 (ex.2208)
admission-tmu@jmj.tmu.ac.jp



Contact Information

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Tokyo Metropolitan University

1-1 Minami-Osawa, Hachioji, Tokyo
192-0397
http://www.biol.se.tmu.ac.jp/global/

Undergraduate Biology Program in English

In 2015, we launched the Biology English program, which provides a full undergraduate biology program in English.
Students can earn a bachelor's degree in Biology entirely in English, or with any proportion in Japanese and English.

Date of issue :
March. 31, 2020