

## Fundamentals of Biology II

<b>Undergraduate / Graduate</b>	Undergraduate	<b>Registration Code</b>	0054223
<b>Course Category</b>	Sciences Basic	<b>Credits</b>	2.0
<b>Term (Semester) / Day / Period</b>	G-II (1st year, Spring Semester) / Thu. / 2 (10:30~12:00)		
<b>Instructor</b>	VASSILEVA Maria		
<b>Contact e-mail of the Instructor</b>	mnvassileva@ilas.nagoya-u.ac.jp		

### ●Goals of the Course

The course is designed to expand students' understanding of the study of biology, and to foster independent decision-making capabilities.

### ●Objectives of the Course

This course's main focus is to provide students with working understanding on how the human body functions, and connect it to health and disease. Short introduction is given on basic concepts of ecology.

The course emphasizes on conceptual understanding of the biological topics discussed, rather than on memorization of terms and facts. Course assignments are prepared with the goal of providing an opportunity to practice conceptual and analytical thinking. Students will gain the ability to use their understanding of human physiology to take informed decisions in everyday health-related situations. Ecology section will allow students to critically evaluate agricultural and ecological issues. Students will have a regular opportunity to engage in discussions, and hone their teamwork skills on team projects.

### ●Course Content or Plan

1. Introductory human anatomy and physiology
  - 1.1 Introduction to animal structure and function
  - 1.2 Digestive system
  - 1.3 Respiratory system
  - 1.4 Circulatory system
  - 1.5 Immune system
  - 1.6 Urinary system
  - 1.7 Endocrine system
  - 1.8 Reproductive system and embryonic development
  - 1.9 Nervous system and senses
  - 1.10 Musculoskeletal system
2. Introductory ecology
  - 2.1 Introduction to the biosphere
  - 2.2 Population ecology
  - 2.3 Community ecology
  - 2.4 Ecosystem ecology
  - 2.5 Conservation biology
  - 2.6

### ●Course Prerequisites and Related Courses

There is no prerequisite knowledge for this course. Everyone who is interested in learning how their body works is encouraged to join. Exchange students are also welcome.

While this course is formally a continuation of Fundamentals of Biology 1, it is not connected to it in content. Related courses: Physiology and Anatomy I.

### ●Course Evaluation Method and Criteria

The University standard 6-step grading scale is used in this course. Evaluation is based on several elements:

- (1) Participation: in-class participation (10%) and out-of-class participation on Perusall platform (10%),
- (2) Projects: group project (10%) and individual project (10%),
- (3) Written assignments: individual unit summaries in the form of Mindmaps (10%) and weekly quizzes (10%)
- (4) Exams: midterm (20%) and final exam (30%).

**Withdrawal:** Students who do not intent to complete the course need to submit a Course Withdrawal Request. This can be done over email/ NUCT message at any time during the course.

●**Study Load (Self-directed Learning Outside Course Hours)**

Students are expected to read the appropriate textbook chapter before class. Classes emphasize discussions and questions, thus coming prepared is essential.

Weekly written assignments - summary of the upcoming class material in the form of a Mindmap - are the core assignments for this course.

●**How to Respond to Questions**

The course instructor can be contacted outside the class hours at the email indicated above.

●**Notice for Students**

Class attendance is not compulsory. Attendance *per se* is not part of the grade – attending without participating is equal to not attending.

If you don't feel well there is no need to send emails asking for permission not to attend class.

If you are abroad and the time difference makes it difficult to participate, feel free not to attend class sessions. Separate discussion meetings can be arranged upon request at a suitable time.

●**Message from the Instructor**

This course will be conducted online until majority of the students are in Nagoya and the epidemic situation allows the class to discuss in lecture room. All course materials and assignments are accessible/submittable online on NUCT. Further information will be provided on the course NUCT site.

<b>Textbook</b>	<p>Title: OpenStax Biology 2e          Authors: Clark, Douglas, Choi          Publisher: OpenStax          Year: 2018          ISBN: 978-1-947172-52-4          Free downloadable textbook (<a href="http://openstaxcollege.org">http://openstaxcollege.org</a>), uploaded on Perusall platform.</p>
<b>Reference Book</b>	<p>Title: Campbell Biology Concepts &amp; Connections Global edition, 10 edition          (or any earlier edition) This book is an excellent alternative to the OpenStax book.          Authors: Taylor, Simon <i>et al.</i>          Publisher: Pearson,          Year: 2021          ISBN: 978-0135269169</p> <p>Title: OpenStax Concepts of Biology          The content of this book is overly simplified for the goals of this course, but provides a quick easy overview.          Authors: Fouler, Roush, Wise <i>et al.</i>          Publisher: OpenStax          Year: 2013          ISBN: 978-1-947172-03-6</p>