Fundamentals of Biology II

Undergraduate / Graduate	Undergraduate	**Registration Code**	0054223
Course Category	Science Basic	**Credits**	2.0
Term (Semester) / Day / Period	G-II (1st year, Spring Semester) / Thu / 2 (10:30～12:00)		
Instructor	VASSILEVA Maria		
Contact e-mail of the Instructor	mnvassileva@bio.nagoya-u.ac.jp		
Target Schools (Programs)	Sc(P・C・B)・En(C・Au)・Ag(B)		

●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. Introduction to the basics of life
2. Animal anatomy and physiology
   - 2.1 Unifying concepts of animal structure and function
   - 2.2 Nutrition and digestion
   - 2.3 Gas exchange
   - 2.4 Circulation
   - 2.5 The immune system
   - 2.6 Control of water balance
   - 2.7 Hormones and the endocrine system
   - 2.8 Reproduction and embryonic development
   - 2.9 Nervous system
   - 2.10 The senses
   - 2.11 How animals move
3. Introduction to Ecology
   - 3.1 The biosphere: an introduction to Earth`s diverse environments
   - 3.2 Behavioral adaptations to the environment
   - 3.3 Population ecology
   - 3.4 Communities and ecosystems
   - 3.5 Conservation biology

●Course Prerequisites and Related Courses

There is no prerequisite knowledge for this course. Even students who didn't take Fundamentals of Biology 1, or didn't study Biology in high school, are encouraged to join. Exchange students are also welcome.
Related courses: Fundamentals of Biology I, Physiology and Anatomy I.

●Course Evaluation Method and Criteria

Evaluation is based on in-class participation (10%), group assignments (10%), individual written assignments (10%) and two exams (total of 70%). The University standard 6-step grading scale is used in this course.
Note: Students who do not intent to complete the course need to submit a Course Withdrawal Form. This can be done 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 Mind map - are the core assignments for this course. Note that Mastering Biology (companion study site for the main textbook of the course) will NOT be used in the course formal assessments.

●How to Respond to Questions

The course instructor can be contacted outside the class hours at the email indicated above.
The course uses NUCT online platform, questions can be also submitted on dedicated forums and message board.

Textbook	Title: Campbell Biology: Concepts & Connections Global edition, 9 edition (or earlier) Authors: Talor, Simon *et al.* Publisher: Pearson, Year: 2018 ISBN 978-1292229478
Reference Book	OpenStax Biology 2e Free downloadable textbook (http://openstaxcollege.org) This is an excellent alternative to the main textbook, and will also be used in the course.