Biotechnology

Undergraduate / Graduate	Undergraduate	**Registration Code**	0064311
Course Category	Sciences Liberal	**Credits**	2.0
Term (Semester) / Day / Period	G-I (1st year, Fall Semester) / Thu. / 3 (13:00～14:30)		
Instructor	CARTAGENA Joyce Abad		
Contact e-mail of the Instructor	joyce@agr.nagoya-u.ac.jp		

●Goals of the Course

This course is designed to provide basic knowledge on biological processes that will help students understand the science behind the technologies. In order for students to appreciate the application of biotechnology in everyday life, practical examples of actual technology used in the industry will be presented and discussed in the lectures. Furthermore, this course will tackle the benefits and drawbacks of Biotechnology to humanity and the environment.

●Objectives of the Course

The students will acquire the very basic knowledge of biology and the related technologies and be able to give intelligent opinions regarding the issues related to Biotechnology. This course will provide a venue for students to freely express their opinions and a chance to discuss with other students in order to appreciate the different opinions among their peers.

●Course Content or Plan

I. Introduction: The nature of Biotechnology
Lecture 1: Basic Science of Biotechnology
Lecture 2: Technologies and Tools in Biotechnology

II. Products of Biotechnology:
Lecture 3: Microbial Biotechnology
Lecture 4: Plant Biotechnology
Lecture 5: Animal Biotechnology
Lecture 6: DNA Fingerprinting and Forensic Analysis
Lecture 7: Aquatic Biotechnology and Bioremediation
Lecture 8: Medical Biotechnology

III. Biotechnology Regulations
Lecture 9: Regulations and Ethics

*COIL classes with North Carolina State University

●Course Prerequisites and Related Courses

None

●Course Evaluation Method and Criteria

Attendance and class participation 30%
Group presentation 30%
Assignments (weekly) 20%
Debate presentation 20%

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

In order to assess students' understanding, assignments (individual and in groups) will be given after every lecture. For group assignments and presentations, discussions among members will be held outside course hours.

●How to Respond to Questions

Communication with the instructor and teaching assistant (TA) outside of class hours will be via NUCT or email. Furthermore, weekly virtual office hours will be available for real-time consultations with the instructor or TA.

●Notice for Students

1. Course format

a. Asynchronous

Recorded lectures will be uploaded to NUCT one day before the class. Students should listen to the lecture and prepare for a discussion on the day of the class.

b. Synchronous

A one-hour Zoom discussion will be held on the day of the class, Thursdays 1:00-2:00 pm JST.

c. COIL class with NCSU (North Carolina State University)

COIL stands for (Collaborative Online International Learning), an educational method that uses ICT to interact with overseas universities online. There are two methods: synchronous (in real time by using Zoom), and asynchronous (using Slack and Google Drive to exchange text and send videos to discuss).

The detailed schedule will be announced on the first day of class.

2. Course webpage

NUCT (Nagoya University Collaboration and Course Tools; https://ct.nagoya-u.ac.jp/portal) is an online system that will be used for this course. PowerPoint slides, recorded lectures, other learning materials (such as videos, websites, etc.) and home works will be accessible through this page.

3. Attendance

In case of emergency or absence from class, students should notify the instructor as soon as possible by email.

4. Academic honesty and original work

Cheating and copying (including plagiarism) will not be tolerated in this class. If caught cheating, students will receive necessary penalties, including getting an **F** in all registered courses for the semester. All submissions (assignments and reports) will be checked using iThenticate.

5. Course withdrawal

Students who wish to withdraw from the course will have to submit a duly accomplished Course Withdrawal Form by **October 25, 2021**.

6. Teaching assistant

Mr. Abriel Bulasag is a PhD student and will be joining the course as a TA. He can be contacted via NUCT messaging or by email (asbulasag@up.edu.ph).

7. Virtual office hours

A regular Zoom meeting room will be open every Friday evening from 9:00-10:00 pm JST. However, students who would like to have a consultation MUST first make an appointment with the TA.

●Message from the Instructor

Students are highly encouraged to regularly check NUCT for important announcements from the instructor.

●Courses taught by Instructors with practical experience

Textbook	None
Reference Book	Introduction to Biotechnology 4/e 2019 (Pearson) ISBN 9780134650197 *or older edition Authors: W.J. Thieman and M.A. Palladino
Reference website for this Course	https://media.pearsoncmg.com/bc/bc_thieman_biotech_4/cw/

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