



TAN TAO UNIVERSITY
FROM KNOWLEDGE TO THE STARS



TAN TAO UNIVERSITY
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COURSE SYLLABUS: BIOSAFETY

TTU Student Honor Code

“Student members of the Tan Tao University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.”

1. **Course name:** Biosafety
2. **Course code:** BT_20-102
3. **Credits:** 1.0 theory
4. **Textbook:** Biological Safety: Principles and Practices, 5th edition
5. **Term:** Spring_2022
6. **Lecturer:** Dr. Ngoc Thien Lam
7. **E-mail:** ngoc.lam@ttu.edu.vn
8. **Address:** School of Biotechnology, Tan Tao University
9. **Time distribution**
 - 9.1. Class: 15 periods (1 period/week)
 - 9.2. Theory periods: 15
 - 9.3. Assessment periods:
 - 9.4. Self-study: 30

10. Prerequisites:

11. Expected learning outcomes (ELOs)

11.1. Knowledge

- 11.1.1. Having fundamental knowledge in mathematics and natural science-related subjects in order to effectively tackle issues in and out of the field of study, and being able to apply this knowledge to higher educational levels.
- 11.1.2. Being able to perceive and analyze new scientific data in the field of biotechnology in order to tackle current problems in the fields of medicine and pharmacy, agriculture, environment, food technology, aquaculture, and industry by using the fundamental knowledge in cell biology, molecular biology, biochemistry, microbiology, genetics, immunology, and biosynthetic pathways of micro-organisms.

11.2 Skills

11.2.1. Having technical skills in cell biology, histology, genetics, biochemistry, and related techniques that are performed in the laboratory, company, or research institute.

11.2.2. Having the ability to communicate scientific information by listening, expressing ideas, giving oral and poster presentations as an individual or as in a team, using listening and speaking skills (both in Vietnamese and English) to present, discuss and debate at scientific conferences.

11.3. Autonomy and responsibility level

11.3.1. Being able to work independently, self-study, self-develop, be a lifelong learner, be responsible for the community and society; embracing integrity, independence, self-responsibility, and passion for work.

Objectives	Outcomes expected from the Course	Outcome Descriptions	Outcome (Bloom)	Outcomes from Training Program
G1	G1.1	Having fundamental knowledge in biosafety, including the ability to identify, assess and control of biological hazards, an understanding about administrative control of biosafety as well as biosafety in different research/work environments	- Remember - Understand	ELOs 11.1
	G1.2	Being able to apply this knowledge to explain related phenomena in real life	- Apply	ELOs 11.1
G2	G2.1	Being able to listen, understand, and discuss scientific information in English	- Apply	ELOs 11.2
	G2.2	Being able to prepare and present in English	- Present	ELOs 11.2
G3	G3.1	Having responsibility to community and own career.	-Understand	ELOs 11.3

12. Course description: This course is designed to provide students with fundamental knowledge in Biosafety. After the class, students are expected to understand basic principles and practices of biosafety such as identifying, assessing and controlling different types of biological hazards, knowing general policies and procedures applied to various work environments to ensure safety for individuals and community.

13. Student tasks: Students are expected to attend class regularly, take notes, do presentations, and participate in class discussion. Outside of class, students are expected to review notes and prepare for designed tasks.

14. Learning materials

14.1. Required Textbooks

14.1.1. *Biological Safety: Principles and Practices*, by Dawn P. Wooley, Karen B. Byers. Publisher: ASM Press, 5th edition (February 1, 2017) ISBN-13: 978-1555816209

14.2. Supplementary references

14.2.1. Articles from PubMed

14.2.2. Videos from YouTube

15. Assessments

15.1. Evaluation criteria

Assessments		
1	Attendance	10%
2	Presentation	25% (12.5-12.5)
3	Mid-term exam	25%
4	Final exam	40%
TOTAL		100%

15.2. Grade calculation

15.2.1. **Assessment 1:** Students who attend greater than 95% of class sessions will get 10% of the total grade.

15.2.2. **Assessment 2:** Students are expected to use and improve presentation skills. Well-prepared and coherent presentation will result in 25% of the total grade. Out of that 25%, 12.5% will be judged based on the individual presentation while the other 12.5% will be judged based on the group presentation.

15.2.3. **Assessment 3:** The mid-term exam will cover knowledge from all the lessons that are taught before the date of the mid-term. This will account for 25% of the total grade.

15.2.4. **Assessment 4:** The final exam will cover knowledge from all the lessons that are taught in class. This will account for 40% of the total grade.

16. Grading guidelines

TTU percentages	Letter Grade	GPA
97-100	A+	4.0
93-96	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
65-69	D	1.0
0-64	F	0.0

17. Scope and sequence

Week	Content	Teaching methods	Class activity		Learning material	Evaluation	Expected learning outcomes
			Lecturer	Student			
1	Hazard identification	Slide presentation;	Show slides of a lesson and explain the lesson's	Listen & discuss with instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1

			content to students;				
2	Hazard assessment	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
3	Hazard assessment (Continued)	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
4	Hazard assessment (Continued)	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
5	Hazard control	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
6	Hazard control (Continued)	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
7	Individual presentation 1	Slide presentation;	Lead the questions and answers	Prepare and present; explain and answer questions	N/A	Level of preparation and the coherence of the presentation; Ability to explain rising questions	G1.1; G1.2; G2.1; G2.2; G3.1
8	Midterm Exam	Online/Offline exam	Supervise the exam	Carry out the exam	In-class-slides	Exam's grade	G1.1; G1.2; G3.1
9	Individual presentation 2	Slide presentation;	Lead the questions and answers	Prepare and present; explain and answer questions	N/A	Level of preparation and the coherence of the presentation; Ability to explain rising questions	G1.1; G1.2; G2.1; G2.2; G3.1
10	Hazard control (Continued)	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
11	Administrative control	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
12	Administrative control (Continued)	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
13	Special environments	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1
14	Special environments (Continued)	Slide presentation;	Show slides of a lesson and explain the lesson's content to students;	Listen & discuss with Instructor to obtain the knowledge	14.1; 14.2	In-class questions and answers	G1.1; G1.2; G2.1; G3.1



15	Group presentation	Slide presentation;	Lead the questions and answers	Prepare and present; explain and answer questions	N/A	Level of preparation and the coherence of the presentation; Ability to explain rising questions	G1.1; G1.2; G2.1; G2.2; G3.1
16	Final Exam	Online/Offline exam	Supervise the exam	Carry out the exam	In-class-slides	Exam's grade	G1.1; G1.2; G3.1

Full Name of Course Lecturer: Dr. Ngoc Thien Lam

Signature:

Full Name of Department Head: Dr. Nguyễn Đình Trường

Signature:

Date:

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