هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	**Selected Topics In Biotechnology 2**
Course Code :	**20534208-3**
Program:	**Bachelor in Biotechnology**
Department:	**Biotechnology Department**
College:	**Science**
Institution:	**Taif University**
Version :	**V4**
Last Revision Date	**:3/1445-9/2023**

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours:					
3 (2 Lecture, 1 Lab)					
2. Course type					
A.	☐ University	☐ College	☒ Department	☐ Track	☐ Others
B.	☐ Required		☒ Elective		
3. Level/year at which this course is offered: (8th level/4th year)					
4. Course general Description:					
The topics of this course will be determined by the Department council to cover some essential topics and new discoveries of basic sciences related to biotechnology.					
5. Pre-requirements for this course (if any)**:**					
None					
6. Co- Pre-requirements for this course (if any)**:**					
None					
7. Course Main Objective(s):					
The main purpose for this course is defining the recent applications of animal biotechnology describe the recent applications of Medical biotechnology, Microbial biotechnology, and pharmaceutical biotechnology.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	45	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours

1.	**Lectures**	30
2.	**Laboratory/Studio**	15
3.	**Field**	0
4.	**Tutorial**	0
5.	**Others (specify)**	0
Total		45

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Recognize the recent applications in plant, animal, microbial, medical and pharmaceutical biotechnology.	**K1**	Lecture	Written Exams
1.2	List the advances in biotechnology applications	**K5**	Lecture	Written Exams
2.0	**Skills**			
2.1	Evaluate the potential risk of biotechnology applications	**S2**	Project	Practical Exam, Report
3.0	**Values, autonomy, and responsibility**			
3.1	Accept the morals of academic environment	V1	**Discussion**	**Report**
3.2	Present the values of working in a team	V2	**Discussion**	**Report**

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction	**3**
2.	Recent applications of Plant biotechnology	**6**
3.	Recent applications of Animal biotechnology	**6**
4.	Recent applications of Medical biotechnology.	**6**
5.	Recent applications of Microbial biotechnology	**6**
6.	Recent applications of pharmaceutical biotechnology	**3**
Total		**30**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm Exam	Week 7	20%
2.	Periodical exam (Quiz)	Week 9	10%
3.	Report	Week 11	10%
4.	Practical Exam	Week 14	20%
5.	Final Exam	Week 15	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Required Textbooks	1. Abdin, M.Z., Kiran, U., Kamaluddin, M., Ali, A. Plant Biotechnology: Principles and Applications, 2017
Essential References Materials	1. Molecular Biology of the Cell, 4th edition, Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, and Peter Walter, New York: Garland Science; 2002.ISBN-10: 0-8153-3218-1ISBN-10: 0-8153-4072-9 2.NdukaOkafor.Modern Industrial Microbiology and Biotechnology. Science PublishersAn imprint of Edenbridge Ltd., British Isles.2007; ISBN 978-1-57808-434-0.
Electronic Materials	**Cell Biology websites that contain various electronic materials, photos, pathways for biotechnological applications https://www.ncbi.nlm.nih.gov**
Other Learning Materials	**Online videos of cellular process, divisions, movement, communications**

2. Required Facilities and equipment

Items	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	1. **One classroom for 2 hours a week and one laboratory for 3 hours a week with internet facility.**
Technology equipment (projector, smart board, software)	**Laptop and data show**
Other equipment (depending on the nature of the specialty)	**Laboratory for 3 hours per week** **2. Microscopes, Centrifuge** **3. Cyclers. Tubes, chemicals.**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Course management and planning	Students	Indirect
Effectiveness of teaching and assessment	Students	Indirect
Quality of learning resources	Students	Indirect
Effectiveness of Evaluation and exams	Students, Peer Reviewer	Indirect, Direct

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Department Council
REFERENCE NO.	6
DATE	5-11-1445