



Course Specification

— (Bachelor)

Course Title: Biotechnology Entrepreneurship

Course Code: 2054201-2

Program: Bachelor in Biotechnology

Department: Biotechnology Department

College: College of Science

Institution: Taif University

Version: V4

Last Revision Date: 3/1445 – 9/2023



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A. General information about the course:

1. Course Identification

1. Credit hours:					
2 (2 lecture)					
2. Course type					
A.	<input type="checkbox"/> University	<input type="checkbox"/> College	<input checked="" type="checkbox"/> Department	<input type="checkbox"/> Track	<input type="checkbox"/> Others
B.	<input checked="" type="checkbox"/> Required		<input type="checkbox"/> Elective		
3. Level/year at which this course is offered: (4th level/2nd year)					
4. Course general description					
<p>This course combines biotechnology and entrepreneurial training into a single academic course. It provides the process of commercializing biotechnology. Commercialization deals with developing intellectual property within biotechnology domain to a point where it is ready to enter the market. Students will gain an understanding of the entire biotechnology enterprise and considerations that are unique to industrial biotechnology. As a result, graduates will be prepared with the knowledge that necessary to commercialize their product, ideas and/or manage a biotechnological organization.</p>					
5. Pre-requirements for this course (if any :					
Professional Skills and Field Training، 2053204-4					
5. Co-requirements for this course (if any :					
None					
7. Course Main Objective(s):					
<p>Demonstrate an appreciation of business plans and their uses for commercializing ideas and use creative tools and techniques to identify market gaps and suggested products/ services to meet those needs.</p>					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	30	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> ● Traditional classroom ● E-learning 		
4	Distance learning		



3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		30

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	Define the conversion of biotechnology applications to products and the basics of entrepreneurship	K2	Lecture	Written Exams
1.2	List the principles of biotechnology enterprise development and the industrial biotechnology	K2	Lecture	Written Exams
1.3	Explain the Intellectual Property Rights	K4	Lecture	Written Exams
2.0	Skills			
2.1	-	-	-	-
3.0	Values, autonomy, and responsibility			
3.1	Adapt to the professional and academic moral in the educational institution	V1	Group Discussion	Report





C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Entrepreneurship Development	2
2	Biotechnological products, new design and set up new commercial companies	4
3	Product and service design concepts	4
4	Consumer driven design	2
5	Location of Enterprise and innovations in Saudi biotechnology 2023.	2
6	Market Assessment and trademarks development	4
7	Team building and intellectual property	4
8	Pricing & financial strategies	2
9	Career Opportunities in the Life Sciences Industry	4
10	Submission and Presentation of Business plans	2
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	Week 10	20%
3.	Report	Week 11	10%
4.	Final Exam	Week 16	50%

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

E. Lear such as computer-based programs/CD, professional standards or regulations and software.

Learning Resources and Facilities

1. References and Learning Resources

Essential References	-Shimasaki, C. (2014). Biotechnology Entrepreneurship (1st Edition): Starting, Managing, and Leading Biotech Companies. Academic Press. Pages: 488. - Atrill, P. and McLaney, E. (2002). Financial Accounting for Non Specialists, 3rded, FT/Prentice Hall, Harlow.
Supportive References	Journals, Reports, etc.
Electronic Materials	such as computer-based programs/CD, professional standards or regulations and software.



Other Learning Materials	Online videos of cellular process, divisions, movement, communications
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2. Required Facilities and equipment

Items	Resources
<p style="text-align: center;">facilities</p> <p>(Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)</p>	<ol style="list-style-type: none"> 1. One classroom 2 hours per week for each section 2. Laboratory 3 hours per week for each practical section
<p style="text-align: center;">Technology equipment</p> <p>(projector, smart board, software)</p>	<ol style="list-style-type: none"> 1. Projector for each classroom 2. Projector in each laboratory
<p style="text-align: center;">Other equipment</p> <p>(depending on the nature of the specialty)</p>	<ol style="list-style-type: none"> 1. Bioreactors 2. Centrifuges (large scale)

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Peer Review, Students	Direct (Independent Reviewer), Indirect (survey)
Effectiveness of Students assessment	Faculty members	Direct (Random Correction)
Quality of learning resources	Students	Indirect (survey)
The extent to which CLOs have been achieved	Faculty members	Direct
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	DEPARTMENT COUNCIL
REFERENCE NO.	6
DATE	7/11/2023

