Course Specifications

Course Title:	**Medical Biology-1**
Course Code:	**370111-4**
Program:	**Bachelor's in Clinical Laboratory Sciences (Level-7)**
Department:	**Clinical Laboratory Sciences**
College:	**Applied Medical Sciences**
Institution:	**Taif University**

Table of Contents

A. Course Identification

1. Credit hours:	**4 hours**
2. Course type	
a.	University ☐ College ☐ Department ☑ Others ☐
b.	Required ☑ Elective ☐
3. Level/year at which this course is offered:	**Level 1/ 1st Year**
4. Pre-requisites for this course (if any)**:**	**None**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	5 hours /week= 75 hours/semester	100%
2	**Blended**	None	0%
3	**E-learning**	None	0%
4	**Correspondence**	None	0%
5	**Other**	None	0%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	45 hours
2	**Laboratory/Studio**	30 hours
3	**Tutorial**	None
4	**Others** (specify)	None
	Total	75 hours
Other Learning Hours*		
1	**Study**	43 hours
2	**Assignments**	None
3	**Library**	None
4	**Projects/Research Essays/Theses**	None
5	**Others**(specify)	None
	Total	43 hours

***The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The Medical Biology (1) course provides an overview of terms, subjects and skills related to cell and tissue Biology that prepares students to understand the fundamental principles of living organisms. Students will explore biological science as a process, cell and tissue types, cell and tissue characters, ultrastructure and function.

2. Course Main Objective

At the end of this course, student should have perception of the inseparability of structure and function in living organisms, understand how do Eukaryotic cells accomplish all their functions. In addition, they should know the membranous and non-membranous organelles and the specific function of each specific subtype and the basic tissue types, recognize the tissue type on micrograph and able to predict their related function.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge:**	
1.1	Define the structures and functions of nuclear and cytoplasmic components.	K1
1.2	Identify the cellular organelles.	K1
1.3	Define the four basic tissue types (epithelia, muscles, connective and nervous tissue)	K1
1.4	Identify the structure of the different types of tissues.	K1
2	**Skills:**	
2.1	Recognize a cell's cytoplasmic components on a micrographic pictures.	S1
2.2	Recognize the different types of tissue structure on a micrographic pictures.	S1
3	**Competence:**	
None		

C (a) Course Content(Theory)

No	List of Topics	Contact Hours
1	**Introduction to cell biology (Goals and Methods)**	**3**
2	**Essential characteristics of the cell.** • Eukaryotic and prokaryotic cells	**3**
3	**Cellular organization and functions**	**3**

4	**Cell membrane structure and function**	**3**
5	**Membrane organelles (Types and Functions)**	**4**
6	**Non-membranous organelles (Types and Functions)**	**3**
7	**Nuclear structure and dynamics**	**3**
8	**Cell Division (Types and significance)**	**4**
9	**Cell Cycle** • Phases of cell cycle • Checkpoints of cell cycle	**4**
10	**Basic body tissues** • Epithelial Tissue (General features and Classification)	**3**
11	**Connective tissue (CT) (General features and** Classification**)** • **Embryonic CT** • **Adult CT**	**3**
12	**The Special connective tissue** (General features and function)	**3**
13	**The muscular tissue** (General features and Classification)	**3**
14	**The nervous tissue** (General features and Classification)	**3**
Total		45

(b) Course Content (Practical)

No	List of Topics	Contact Hours
1	**Introduction to cell biology (Practical applications)**	**2**
2	**Basic principles of light Microscope**	**3**
3	**Microscopes (Types and functions)** • Electron microscope • Fluorescence microscope	**2**
4	**Ultra-structure of Cell membrane**	**3**
5	**Structure and ultra-structure of Membrane organelles**	**2**
6	**Structure and ultra-structure Non-membranous organelles**	**2**
7	**Nucleus structure (General features)**	**2**
8	**Cell Division**	**4**

9	**Basic body tissue** • Structural Types of Epithelial Tissue (General features and Classification)	**2**
10	**Structural Types of Connective tissue (General features and Components)** • **Embryonic CT** • **Adult CT**	**2**
11	**Structural Types of special connective tissue (Adipose CT, Cartilage and Bone CT)**	**2**
12	**Structural Types of Muscular tissue and nervous tissue.**	**2**
	Structural Types of Nervous tissue	**2**
Total		30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Define the structures and functions of nuclear and cytoplasmic components.	• Lectures	• Exams
1.2	Identify the cellular organelles.	• Lectures	• Exams
1.3	Define the four basic tissue types (epithelia, muscles, connective and nervous tissue)	• Lectures	• Exams
1.4	Identify the structure of the different types of tissues.	• Lectures	• Exams
2.0	**Skills**		
2.1	Recognize a cell's cytoplasmic components on micrographic pictures.	• Lectures • Practical sessions	• Exams
2.2	Recognize the different types of tissue structure on micrographic pictures.	• Lectures • Practical sessions	• Exams
3.0	**Competence**		
	None		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-Term Exam	8th Week	20 %
2	Activity (online quiz 1 & 2)	Throughout the semester	10 %
3	Final Practical Exam	16th Week	20%
4	Final Exam	17th/18th Week	50%
5	**Total**		**100%**

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

- Course instructors are available for individual consultation in their free time. They are usually full-time permanent members present on-campus from 8:00 am to 2:30 pm on all working days. Appointments can be made in person with the instructor through email etc. Days and time availability of each instructor are posted on their doors. Course instructors provide a range of academic and course management advice including course planning and its progression.
- Each student at the department of Clinical Laboratory Sciences has an academic adviser who is available for individual consultation and guidance. Appointments can be made in person with the instructor through email etc. Days and time availability of each adviser are posted on their doors. The academic adviser can provide support with time management, exam preparation, clarification of subject requirements, feedback on performance and dealing with personal issues as well.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**1- Cell Biology, Thomas Poland; William Earnshaw, International edition (Available in college's library)** **2- Campbell biology 10th edition. Available as (PDF).**
Essential References Materials	N/A
Electronic Materials	**Essentials of Cell Biology, Nature Education (online).** **https://www.nature.com/scitable/ebooks/essentials-of-cell-biology-14749010/contents**
Other Learning Materials	**NA**

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and Laboratories
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show, Blackboard and A/V
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Microscopes

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's feedback on effectiveness of teaching and quality of courses.	Students	Indirect: Questionnaire Survey at the end of each semester.
Alignment map of course ILOs with that of program ILOs.	Development and accreditation committee	Direct: Student's Performance.
Availability of learning resources, facilities and equipments related to each course.	Students and faculty	Indirect: Questionnaire Survey at the end of each semester.
Evaluation of teaching	Peer evaluators	Direct: Peer evaluation
Standard of student achievement	Examination Committee	Direct: Students grades
Periodical review of course effectiveness and planning for its improvement.	Teaching staff/ Development and accreditation committee	Indirect: Review by Department Committee

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes,Quality oflearning resources, etc.)
Evaluators (Students,Faculty, Program Leaders,Peer Reviewer, Others (specify)
Assessment Methods(Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department Council
Reference No.	Meeting No.10
Date	10-9-1440