المركز الوطني للتقويم والاعتماد الاكاديمي
National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS

Zoology for Health Sciences

ZOO-105

هيئة تقويم التعليم
Education Evaluation Commission

Course Specification

Institution: **King Khalid University**
College/Department : **College of Science, Biology Department – Joint Programs**

A. Course Identification and General Information

1. Course title and code: **Zoology for Health Sciences, ZOO-105**
2. Credit hours: 4 **(3+1)**
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) **Preparatory year, Health Sciences Program, Joint Programs**
4. Name of faculty member responsible for the course: **Dr. Amin Abdullah Al-Doaiss**
5. Level/year at which this course is offered: **2nd level/ 1st year** (preparatory year)
6. Pre-requisites for this course (if any): **None**
7. Co-requisites for this course (if any): **None**
8. Location if not on main campus: **Al-Mahala campus (Boys, girls), Al-Samer campus (girls) and Tehama Campus (girls).**
9. Mode of Instruction (mark all that apply):

a. traditional classroom	√	What percentage?	75%
b. blended (traditional and online)		What percentage?	
c. e-learning		What percentage?	
d. correspondence		What percentage?	
e. Practical	√	What percentage?	25%
f. other		What percentage?	

Comments:

B Objectives

What is the main purpose for this course?

1. Summary of the main learning outcomes for students enrolled in the course.

By the end of this course, the students should be able to:

- This course aims to provide the students with basic and advanced knowledge about the levels of organization of human body from atoms, molecules of life to the organism
- The student should understand the Macromolecules structure & functions within the cell.
- The student should understand the cell types, cell structure and functions, cell membrane, protoplasm (cytoplasm and karyoplasm, chromatin, nucleolus, nuclear matrix) and Types of cell transport.
- The student should understand the basic histological structure and ultrastructure of the eukaryotic cellular organelles (membranous and non-membranous) structure and their functions, cytoskeleton, cytoplasmic inclusions, Cellular metabolism
- The student should understand the cell cycle, cell divisions (mitosis & meiosis) and the differences between them, chromosome structures and types, DNA & RNA structure, central dogma (DNA replication and gene expression).
- The student should know the normal histological structure of different tissues of human body (epithelial, connective, nervous, muscular, glandular tissue) and glands in addition to some of its systems, and how to identify them under the microscope, with functional and clinical correlation whenever possible.
- The student should know the anatomy and physiology of different organ systems (musculoskeletal system, digestive system, cardiovascular system, respiratory system, urinary system and nervous system).

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Update course content, through reference to scientific developments related to the content of the course.
- Exchange experiences between teachers and coordinators in charge of the course
- Develop the lab facilities.
- Using recent books and journals.
- Using the related websites.
  - Using recent learning videos
  - Apply the advanced tools at Blackboard.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

1. Topics to be Covered (Theoretical)		
List of Topics	**No. of Weeks**	**Contact hours**
Chemistry of life: *introduction***,** *Matter, atoms, isotopes, Macromolecules "polymers",* ***Carbohydrates*** *(mono, di, polysaccharides and their importance)),* ***Protein*** *(Structure, levels of organization and functions),*	**1**	**3**
Chemistry of life: ***Lipids*** *(types, their importance, emulsification, phospholipids and steroids,* ***Nucleic Acids*** *(DNA, RNA structure, types of RNA)*	**1**	**3**
Cell Structure and Function: *Cell theory, Plasma membrane, Types of cell transport (active and passive)*	**1**	**3**
Cell Structure and Function: *Cytoskeleton (microtubules, intermediate, microfilaments), Cytoplasm &Cytoplasmic organelles, Cellular metabolism (metabolic pathways, enzymes, cellular respiration, Fermentation).*	**1**	**3**
Cell Division: *Cell cycle stages, mitosis and meiosis.*	**1**	**3**
Histology: *Types of Tissues,* ***Connective tissue*** *(structure, Fibers, proper CT "loose and dense", Vascular CT "blood and lymph" , Supportive CT " cartilage and Bone*	**1**	**3**
Histology: ***Muscular tissue*** *" skeletal, cardiac, smooth" and* ***Nervous tissue*** *"neuron, neuroglia, synapse***"**	**1**	**3**
Histology: ***Epithelial tissue*** *" simple, stratified, glands***",** *body membrane, body cavities, cancer*	**1**	**3**
Digestive system-I: *Functions, Oral region, alimentary canal organs (esophagus, stomach, small and large intestine***)**	**1**	**3**
Digestive system-II: *Accessory organs & glands " teeth, salivary glands, liver, pancreas", regulation of digestive secretions, digestive enzymes.*	**1**	**3**
Urinary system: *Functions, Organs of the urinary system, urination, urine formation* **Respiratory system:** *Organs of respiratory system (upper and lower respiratory tract), mechanism of breathing (inspiration and expiration*	**1**	**3**
Nervous system: *Functions, nervous system divisions, Anatomy of neuron, Physiology of neuron, the nerve impulse communication.* **Cardiovascular system** *Functions, structure of the heart, blood vessels (arteries, veins, capillaries and circulatory blood*	**1**	**3**
Musculoskeletal system: *muscles, muscle contraction, muscle cramp, fatigue*	**1**	**3**
DNA biology & technology *(semiconservative DNA replication, gene expression = transcription and translation or protein synthesis steps)*	**1**	**3**

1.2 Topics to be Covered (Practical)

List of Topics	No of Weeks	Contact hours
How to use the microscope and preparation of cheek cells, plant cells	**1**	**2**
Cell Structure and Function I	**1**	**2**
Cell Structure and Function II	**1**	**2**
Cell Division (mitosis)	**1**	**2**
Cell Division (meiosis)	**1**	**2**
Histology (Selected human tissues)	**1**	**2**
Histology (Selected human tissues)	**1**	**2**
Anatomy of rats (Dissection of Rat) **Digestive System**	**1**	**2**
Respiratory system	**1**	**2**
Urogenital System	**1**	**2**
Nervous System and Sense organs	**1**	**2**
Cardiovascular system and blood	**1**	**2**
Musculoskeletal system	**1**	**2**
Review	**1**	**2**

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory	Other:	Total
Contact Hours	Planed	**42**	**--**	**28**	**--**	**70**
	Actual	**42**				
Credit	Planed	**3**	**--**	**1**	**--**	**4**
	Actual	**3**	**--**	**1**	**--**	**4**

3. Additional private study/learning hours expected for students per week. 1 h

1 hour/week, answer quizzes of blackboard

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.
First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	**Description of the knowledge to be acquired:** • Define the Medical terminology • Describe the chemistry of life and molecules • Understanding the cell structure and function as well as the mechanism of cell division • Knowledge the basic structure of DNA double helix and RNA • Describe the histology of different human tissues • Demonstrate the structure of various body organs and systems, and their relative functions	• Lectures as PowerPoint presentations • Link the practical concepts with the theoretical part. • Use the blackboard • Brainstorming • In class discussions • Share knowledge between group students. • Multi-media, videos, animations.....etc	• Continuous assessments: quizzes, reports, Home works • Theoretical: MCQs, short essay • practical exams • Students attendance , tasks, participation,
1.2			
2.0	**Cognitive Skills**		
2.1	• The following skills of students will be developed: • Linking between the theoretical and practical skill. Identify the chemical concepts and its role in our life • Discuss the relation between different parts of the cell and their function • Deduce the compatibility of different structures and functions of our body. • Relate the structure of various body organs and systems, and their relative functions	• Lectures and oral discussion method to enhance thinking, as asking questions and left the students thinking • Laboratory sessions to promote the practical skills. • Animation and multimedia to simplify the mechanisms • Using different styles of discussion and brainstorming in order to connect between the theoretical and the practical side. • Ask questions and give exercises that require analysis and conclusion.	• Tasks, homework, Quizzes, midterm and final exams, • Oral discussion • Reports about specific topics related to the lesson
2.2			
3.0	**Interpersonal Skills & Responsibility**		
3.1	• Work independently and as a team work. • Manage resources, time and other members of the group. • The student's ability to have dialogue and discussion with others	• To encourage them to participate in discussions and do the practical work.	• Assessing the participation in group work, assessment of student

	• Interpersonal skills with others and taking responsibility. • Be responsible for the creation of scientific performance of duties and incentives that add to the grades of the activity. • Ability to work in groups for discussion and research • Group and individual participation in class. • Practical work.	• To share information between groups	• participation, class activities and share knowledge between groups.
3.2			
4.0	**Communication, Information Technology, Numerical**		
4.1	• The use of the World Wide Web in all aspects • Safely and sufficiently utilize laboratory equipments	• Through lectures, Student negotiation • Role playing with peers	• Assessing their interaction in class with the teacher and students. • Class activity • Exercises
4.2			
5.0	**Psychomotor**		
5.1	• Organize timing by attending the classes and finalizing the home works on time • Development of drawing skills and accurate scientific microscopic examination	• Perform experiments • Construct models • Practical sessions: examine the slides under the light microscope • Draw scientific diagrams	• During Practical exams
5.2			

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	**First Practical Exam (Practical Quiz)**	**10**	**10%**
2	**Theoretical Mid-term Exam**	**20**	**20%**
3	**Theoretical activities: Homework and Quiz**	**5**	**5%**
4	**Final Practical Exam**	**10**	**10%**
5	**Practical activities**	**5**	**5%**
6	**Theoretical Final Exam**	**50**	**50%**

D. Student Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- 10 Office hours / week
- Blackboard course mail & Discussion board
- Direct supervision by staff member in lab sessions.

E Learning Resources

1. Required Textbooks

- Human Biology, Sylvia Mader and Michael Windelspecht (2017).
  Mader, S. S. and Windelspecht, M. (2017). *Human biology* (15th *ed*.). New York, NY: McGraw-Hill. **ISBN:9781259921865**
- **Lectures of Course Lecturers (**Lectures as PowerPoint presentations**)**

2. Essential References & recommended books, References Materials (Journals, Reports, etc.)

- Human Biology, Daniel D. Chiras, (2013). Jones & Bartlett Learning; 7th edition.
- Memmler's Structure and Function (2015). Barbara Janson Cohen & Jason Taylor. Lippincott Williams & Wilkins eighth edition.
- Campbell, Neil A. Biology. Campbell Jane B. Reece 8th edition (2008).

3. Electronic Materials, Web Sites, Facebook, Twitter, etc.

Access Medicine
https://accessmedicine.mhmedical.com/qa.aspx?groupid=961
Acland's video atlas of human anatomy
https://aclandanatomy.com/Multimedia.aspx?categoryid=39469
CINAHL Plus with FT - EBSCO
http://web.a.ebscohost.com/ehost/search/basic?vid=0&sid=2
ca6b33f-05ca-4830-bae7-12453f37aa28%40sdc-v-sessmgr01
http://www.medicinenet.com/script/main/hp.asp

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
   - All rooms and laboratories are suitable for teaching this course provided with all materials that facilitate the understanding of the students.
   - The laboratories are provided with modern microscopes, models and different sample are available to the student at any times.

2. Technology resources (data show, Smart Board, software, etc.)
- Smart Board
- Data Show projectors for labs

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Surveys, discussion groups
- Student-faculty meeting

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Monitoring and supervision of classes by the department.
- Peer consultation on teaching
- Discussion with the group of faculty teaching the same course
- Departmental council discussions

3. Processes for Improvement of Teaching

- Allow the teachers to be in the active enhancement process for better teaching.
- Prepare new and up-to-date lectures materials.
- Provide online class related materials.
- Give feedback to teachers.
- Give trainings to teachers on new technology to be used in teaching.
- Conducting Departmental workshops given by experts
- Periodical departmental revisions of each method of teaching
- Monitoring of teaching activities by senior faculty members
- Development of the parent relation between the teacher and the students.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Developing the exams by the assessment unit.
- Allow independent marking of random students from each class by a different faculty member.
- Monitor exams by other faculty members.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The course material and learning outcomes are periodically reviewed and the changes to taken are approved by the departmental and the higher councils
- The head of the department take the responsibility of implementing the proposed change.
- Periodical meetings with outstanding students in the course to discuss the problems that face them in the course
- Comparison between similar courses in relevant faculties from different universities.

Name of Course Instructor: Dr. Amin Abdullah M. Al-Doaiss
Signature: _____ Date Specification Completed: 7-10-2019

Program Coordinator: Dr. Mohamed H.A. Suleiman

Signature: _____ Date Received: _____