TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Baghdad University- Al-Khwarizmi College of Engineering
2. University Department/Centre	Biomedical Engineering
3. Course title/code	Artificial Organs 2
4. Programme(s) to which it contributes	BSc in Biomedical Engineering
5. Modes of Attendance offered	Full time attendance
6. Semester/Year	One Semesters per year
7. Number of hours tuition (total)	45 hours in the semester
8. Date of production/revision of this specification	15 – February 2019
9. Aims of the Course	
By the end of this course, The students will be able to: 1- The replacement or augmentation of failing human organs with artificial devices and systems has been an important element in health care for several decades	

2- Concepts underlie the design and analysis of the devices as kidney dialysis to augment failing kidneys, artificial heart valves to replace failing human valves, cardiac pacemakers to reestablish normal cardiac rhythm, and heart assist devices to augment a weakened human heart.

10· Learning Outcomes, Teaching ,Learning and Assessment Methods

A- Knowledge and Understanding

A1.
A2.
A3.

B. Subject-specific skills
B1.
B2.
B3.

Teaching and Learning Methods

• Lectures where the students write information presented to them via slide show, overhead or written by the lecturer;
• Lectures where the students have some printed notes/handouts and may annotate, or expand these during a spoken lecture;
• Question and answer sessions during lectures or staff Office Hours;

Assessment methods

• Written examinations (Summative assessment);
• Oral presentations of individual and group work;
• Homework;

C. Thinking Skills
C1.
C2.
C3.
C4.

Teaching and Learning Methods

External lectures from industry or clinicians;
• Feedback given to students during tutorials;
• Question and answer sessions during lectures or staff Office Hours

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. D2.
Teaching and Learning Methods • Lectures where the students have some printed notes/handouts and may annotate, or expand these during a spoken lecture; • Lecture material placed on web-pages. • Question and answer sessions during lectures or staff Office Hours;
Assessment Methods
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11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1	2019	Introduction to Artificial Organs 2		
2	2019	Artificial Heart Valve		
3	2019	Artificial Heart		Quiz 1

4	2019	Ventricular Assist Device (VAD)		
5	2019	Pump Types		
6	2019	Select Artificial Heart Pump Types		
7	2019	Mechanical Circulatory Support for Artificial Heart		Test 1
8	2019	Magnetic Bearing and Hydrodynamic Bearing of VAD		
9	2019	Artificial Liver		
10	2019	Artificial Pancreas		Quiz 2
11	2019	Artificial Lung		
12	2019	Artificial Kidney		
13	2019	Dialysis		
14	2019	Artificial Eye		Test 2
15	2019	Artificial Ear		

13. Admissions	
Pre-requisites	**Transport Phenomena**
Minimum number of students	**10**
Maximum number of students	**40**

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	**1 - Artificial Organs by Gerald E. Miller** **2- Design of Artificial Human Joints & Organs by Subrata Pal** **3- Artificial Organs by Nadey Hakim (Ed)**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	