



COURSE SPECIFICATION

(Biomechanics and Biomaterials)

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course.	Orthopediac and traumatology MD degree
(2) Department offering the course.	Orthopediac department
(3) Department responsible for teaching the course.	Orthopediac department
(4) Part of the programme.	First part
(5) Date of approval by the Department`s council.	11.5.2016
(6) Date of last approval of programme specification by Faculty council.	9/8/2016
(7) Course title.	Orthopaedic biomechanics and biomaterials
(8) Course code.	Osurg 625BB
(9) Total teaching hours.	15 hours
(10) Credit hours	1 hour

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

This course aims at providing participants with the knowledge and basic skills related to biomechanics and biomaterials,

(2) Intended Learning Outcomes (ILOs):

A- Knowledge and Understanding

A 1	Recognize the different types of metals and supporting materials.
A2	Describe the general properties of metals
A3	Enlist the different prosthesis for joints of the lower and upper limbs
A4	Recognize biomechanics joints of the limbs .

B- Intellectual skills

B1	Integrate basic biomechanics and biomaterials knowledge with clinical data.
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(3) Course content:

Biomechanics

subject	Teaching hours
1. Basic principle of biomechanics “Defenition, Applications”	1
2. Biomechanics of hip “Normal & Diseased”	2
3. Biomechanics of spine “Normal & Diseased”	2
4. Biomechanics of knee	2
5. Biomechanics of long bones	1

Biophysics

subject	Teaching hours
1. Polymers	1
2. Properties of materials	2
3. Corrosion	1
4. Bearing surfaces “PE, Ceramic, Metal”	1
5. Joint lubrication	1
6. Polymers	1

(4) Teaching methods:

4.1: Lectures

4.2: Discussion,

(5) Assessment methods:

5.1: Written Exam to assess knowledge (100 degrees).

Assessment schedule:

Assessment 1. Written Exams Short essay after 6 months from the date of registration to the degree

MCQ continuous assessment exam at the end of the semester

Percentage of each Assessment to the total mark:

Written exam: 100%

MCQ 20% of the written exam

Other assessment without marks:

Assessment of attendance & absenteeism throughout the course

Research assignment to assess general transferable skills, intellectual skills

(6) References of the course:

6.1: Hand books: A hand out of the lectures.

6.2: Text books:

Campell's Operative Orthopedic

Rockwood operative orthopedics

6.3: Websites: Innerbody.com

6.4 Journals : Arthroplasty

(7) Facilities and resources mandatory for course completion.

- Teaching places (teaching class, teaching halls, teaching laboratory).

- Teaching tools: including screens, computers including CD, data show, projectors, flip charts, white boards, video player, digital video camera, scanner, copier and laser printers.

Course coordinator:

Dr.Adham El-Sharkawy

Head of the department:

Prof dr.Hani El-Mowafy

Date: