Course Specifications

Course Title:	Orthopedic Surgery
Course Code:	1000512
Program:	**MBBS**
Department:	**Surgery**
College:	**Medicine**
Institution:	**King Faisal University**

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A. Course Identification

Credit hours:	**1.5**
2. Course type	
a.	University [√] College [ ] Department [ ] Others [ ]
b.	Required [√] Elective [ ]
3. Level/year at which this course is offered:	**Year 5**
4. Pre-requisites for this course (if any)**:**	**Pass in all blocks and professional development lines – year 1, year 2, year 3 and year 4**
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**		
2	**Blended**		
3	**E-learning**		
4	**Correspondence**		
5	**Other**	45	100

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify) (CBT, Seminars, Morning meetings, Clinical postings and Logbook activity)	45
	Total	45
Other Learning Hours*		
1	**Study**	30
2	**Assignments**	5
3	**Library**	5
4	**Projects/Research Essays/Theses**	5
5	**Others** (specify)	
	Total	45

* 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**

By the end of this integrated course, students should have the necessary knowledge, skills and attitudes that will enable them to function effectively as members of an interdisciplinary healthcare team capable to:
1. Acquire the basic knowledge of Orthopedic surgery including Trauma, Sports, Arthroplasty, Spine, Rehabilitation and Rheumatology to secure foundation in the subject on which they can subsequently build, whether for general practice, or further specialization.
2. Diagnose and manage basic cases of Orthopedic surgery including Trauma, Sports, Arthroplasty, Spine, Rehabilitation and Rheumatology patients in primary care settings
3. Identify possible complications, learn their prevention and management
4. Use and apply 'evidence-based medicine' in order that they can update and choose best options for patient management

2. Course Main Objective

To enable students to acquire basic working knowledge of Orthopedic Surgery to secure foundation in the subject on which they can subsequently build, whether for general practice, or further specialization, including diagnosis and management of common musculoskeletal conditions in primary care settings, identification of possible complications and learn their prevention and management

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge:**	
1.1	Recognize the physiologic mechanisms that explain key findings in the history of common orthopedic diseases. (Which include Trauma, Sports, arthroplasty, Spine and Rheumatology)	K1
1.2	Describe the etiologies, pathophysiology, clinical features, differential diagnosis, and related diagnostic testing and management of common orthopedic diseases (Which include Trauma, Sports, arthroplasty, Spine and Rheumatology)	K2
2	**Skills :**	
2.1	Complete a patient's history and physical exam in a logical organized and thorough manner	S1
2.2	Evaluate and prioritize problems with which a patient presents, appropriately synthesizing these into logical clinical syndromes.	S2
2.3	Formulate a differential diagnosis based on the findings from the history and physical examination and apply differential diagnosis to help guide diagnostic test ordering and sequencing.	S3
2.4	Formulate an initial therapeutic plan (both surgical and non-surgical, whenever needed so) and explain the extent to which the therapeutic plan is based on pathophysiologic reasoning and scientific evidence of effectiveness.	S4

CLOs		Aligned PLOs
2.5	Summarize basic diagnostic tools and select a plan of management for common orthopedic diseases. (Which include Trauma, Sports, arthroplasty, Spine and Rheumatology)	S5
2.6	Recognize when additional information is needed to care for the patient and demonstrate ongoing commitment to self-directed learning.	S6
2.7	Demonstrate ability to answer clinical questions using evidence-based medicine.	S7
3	**Competence:**	
3.1	Demonstrate the competence of history taking in a logical manner for various musculoskeletal conditions and to reach to a differential diagnosis.	C1
3.2	**Perform** general examination in logical organized and thorough manner	C2
3.3	**Perform** local examination of the relevant musculoskeletal systems in logical organized and thorough manner	C2
3.4	Demonstrate use of interpersonal communication skills during history taking and examination of cases throughout the clinical training period	C4
3.5	Develop and implement a suitable plan of care for different musculoskeletal problems in a shared view with patients, relatives and peers, including breaking bad news.	C3
3.6	Show skills of consultation with other physicians and other health care professionals with teamwork spirit.	C6

C. Course Content

No	List of Topics	Contact Hours
1	Basic bone biology	2
2	Principles of bone healing	2
3	Principles of fracture fixation	3
4	Long bone fractures	5
5	Metabolic bone diseases	3
6	Recent advances in orthopedic surgery	2
7	Approach to a patient with Fracture non-union	2
8	Approach to a patient with Musculoskeletal Infections	2
9	Approach to a patient with bone and soft tissue tumors	2
10	Approach to a patient with vertebral fractures	2
11	Approach to a patient with nerve injuries	2
12	Basic orthopedic radiology	4
13	Orthopedic Implants	3
14	Management of common orthopedic emergencies	6
15	Observation of elective orthopedic surgeries	5
Total		45

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	Recognize the physiologic mechanisms that explain key findings in the history of common orthopedic diseases. (Which include Trauma, Sports, arthroplasty, Spine and Rheumatology)	**Small group discussion Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
1.2	Describe the etiologies, pathophysiology, clinical features, differential diagnosis, and related diagnostic testing and management of common orthopedic diseases (Which include Trauma, Sports, arthroplasty, Spine and Rheumatology)	**Small group discussion Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
2.0	**Skills**		
2.1	Complete a patient's history and physical exam in a logical organized and thorough manner	**Small group discussion Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
2.2	Evaluate and prioritize problems with which a patient presents, appropriately synthesizing these into logical clinical syndromes.	**Small group discussion Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.3	Formulate a differential diagnosis based on the findings from the history and physical examination and apply differential diagnosis to help guide diagnostic test ordering and sequencing.	**Small group discussion** **Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
2.4	Formulate an initial therapeutic plan (both surgical and non-surgical, whenever needed so) and explain the extent to which the therapeutic plan is based on pathophysiologic reasoning and scientific evidence of effectiveness.	**Small group discussion** **Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
2.5	Summarize basic diagnostic tools and select a plan of management for common orthopedic diseases. (Which include Trauma, Sports, arthroplasty, Spine and Rheumatology)	**Small group discussion** **Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
2.6	Recognize when additional information is needed to care for the patient and demonstrate ongoing commitment to self-directed learning.	**Small group discussion** **Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
2.7	Demonstrate ability to answer clinical questions using evidence-based medicine.	**Small group discussion** **Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Competence**		
3.1	Demonstrate the competence of history taking in a logical manner for various musculoskeletal conditions and to reach to a differential diagnosis.	**Small group discussion Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
3.2	**Perform** general examination in logical organized and thorough manner	**Small group discussion Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
3.3	**Perform** local examination of the relevant musculoskeletal systems in logical organized and thorough manner	**Small group discussion Hospital based teaching – bed side and outpatient**	-Final term exam tested direct knowledge acquisition related to the objective 2. Student case presentations (formative) 3. Clinical exam (OSCE) 4.Interactive seminar
3.4	Demonstrate use of interpersonal communication skills during history taking and examination of cases throughout the clinical training period	**Direct observation and feedback during clinical sessions and during hospital bedside teaching**	Case Presentation OSCE Logbook PD line/Coach meeting
3.5	Develop and implement a suitable plan of care for different musculoskeletal problems in a shared view with patients, relatives and peers, including breaking bad news.	**Direct observation and feedback during clinical sessions and during hospital bedside teaching**	Case Presentation OSCE Logbook PD line/Coach meeting
3.6	Show skills of consultation with other physicians and other health care professionals with teamwork spirit.	**Direct observation and feedback during clinical sessions and during hospital bedside teaching**	Case Presentation OSCE Logbook PD line/Coach meeting

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Monitoring of attendance and logbook submission	Every day (per assigned activity)	5%
2	Seminar	2 days a week	5%
3	Long Case Presentation	Last day of clinical rotation	5%
4	Viva related to long case	Last day of clinical rotation	5%
5	Logbook Presentation	Last day of clinical rotation	5%
6	Viva related to logbook	Last day of clinical rotation	5%
7	OSCE	After 2 weeks	30
8	Problem solving written examination	After 2 weeks	40

***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 :

Students in need of appointments for any academic guidance can consult the block coordinator during the provided office hours after taking prior appointment

Office hours will be available at the college from 12.00 -2.00 pm every Monday and Tuesday

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	• Mercer's Textbook of Orthopedics & Trauma, 10th Ed. • McRae Clinical Orthopedics Examination, 6th Ed. (for Practical)
Essential References Materials	• British National Formulatory (www.bnf.org) • Journal of Bone & Joint Surgery (JBJS-American & JBJS – British)
Electronic Materials	• Orthobullets.com • Inkling.com • Slideshare.com • Uptodate.com • AO Trauma website
Other Learning Materials	• Electronic material made by the faculty for short clinical discussion are made available to the students

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture halls with multimedia facilities • Skill and simulation labs with adequate number of mannequins, computers and other accessory Equipment.
Technology Resources (AV, data show, Smart Board, software, etc.)	• Basic computers with multimedia facility
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• Case discussion room avalable in the hospital • Access to the orthopedic out patient, in patient, emergency and operating facility in the hospital

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Course objectives, content and learning outcomes	Curriculum committee	Course review Course report
Effectiveness of teaching	Faculty and students	Classroom observation (QMS annex O and P) Course evaluation survey (QMS annex B)
Achievement of course learning outcomes	Course faculty	Moderation (QMS annex G and annex H)
Assessment	Course faculty	Verification
Learning resources and facilities	Students Faculty	Course evaluation Survey Course report
Student academic counseling and support	Students	Course evaluation Survey
Course quality management	Program coordinator	Course report review

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

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	