**Department of Orthopaedics**
**College of Medicine**
**King Khalid University Hospital**

# Surgery Course 452

# Orthopaedic Surgery and Trauma Curriculum for the Undergraduate Students

# Student's Guide Booklet

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**Introduction:**

Orthopedic Department at King Saud University welcomes all students joining in the Course 452: Orthopedic and Trauma Surgery.

452 Course is a mandatory course during 4th year. All medical students need to take this course in order to fulfill the requirement of the graduation.

We believe that our course has been received well by all previous student groups especially during last two years after it has been re-developed with the aim of improving competencies of all future doctors in the assessment and management of musculoskeletal conditions.

This booklet provides a general introduction for Surg. Course 452 and will serve as a guide for both students and teaching faculty members. It will include the following; learning outcomes & objectives, core curriculum contents, teaching and learning methods, teaching and learning places and events, learning resources, assessment, methods and course evaluation.

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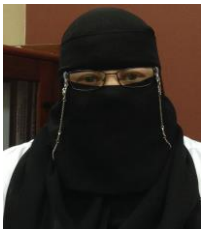

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**Curriculum Overview**

**Aim and Scope of Curriculum:**

The aim of this curriculum is to improve the competencies of all future doctors in the assessment and management of musculoskeletal conditions and to produce competent graduates with the knowledge and skills to manage **common** or **urgent** musculoskeletal conditions ***irrespective*** of future specialty. To achieve this, the **minimum level of competencies** required for all medical students that is all future doctors has been defined in this curriculum.

A competency-based approach has been utilized to design this curriculum. In a competency-based curriculum, 452 courses, must demonstrate that the students are competent in the assessment and management of common or urgent musculoskeletal conditions irrespective of future specialty. This approach defines desired graduate abilities (outcomes) and allows those outcomes to guide the development of curricula, assessment, and evaluation.

**Goals of the Course**:

**By the end of the course, students will have demonstrated the ability to:**

1. Demonstrate essential knowledge required to diagnose, initially manage and to know when to immediately refer a patient with a condition that requires **urgent** specialist management.
2. Demonstrate knowledge to specify the symptoms, signs and immediate complications; to outline the assessment and appropriate investigation and; to outline the immediate and long term management of patients with **common** and community related orthopedic conditions and musculoskeletal trauma.
3. To take a relevant and a focused MSK history in the knowledge of the characteristics of the major conditions of: bone; joints; connective tissue; nerve tissue and; muscle tissue.
4. To perform a focused physical examination of major joints (shoulder, hip, knee, foot and ankle, PN and spine).
5. To order and to demonstrate an appropriate use and interpretation of appropriate investigations including: radiography, CT/MRI/bone scan, MSK U/S, serology, synovial fluid analysis, and EMG/NCS.
6. The ability to perform a common non-surgical orthopaedic procedure likes joint aspirations and ability to apply and remove a cast.

7. Demonstrates interpersonal and communication skills that result in the effective exchange of information and collaboration with colleagues, nurses, teaching faculty, patient, and health professionals.
8. Demonstrates a commitment to carrying out professional responsibilities by exhibit appropriate professional behaviors during the course, including honesty, integrity, commitment, compassion, respect and confidentiality.

**Curriculum Core Contents & Competencies:**

I. EMERGENCIES / RED FLAGS

II. FRACTURES / TRAUMA

III. PEDIATRIC ORTHOPAEDIC CONDITIONS

IV. NON-TRAUMATIC ORTHOPAEDIC CONDITIONS

V. CLINICAL & DIAGNOSTIC SKILLS

VI. PROCEDURAL SKILLS

VII. INTERPERSONAL AND COMMUNICATION SKILLS

VIII. ATTITUDE AND PROFESSIONALISM

## I. EMERGENCIES / RED FLAGS

**Learning Outcome:**

- The ability to demonstrate knowledge, the ability to diagnosis, initially manages and to know when to immediately refer a patient with a condition that requires urgent specialist management. This requires the ability to indentify, characterize and differentiate through patient inquiry, examination and limited investigation, within the context of knowledge and outline management of:
    - **Open Fractures**
    - **Fractures with nerve or vascular compromise**
    - **Compartment Syndrome**
    - **Cauda Equina Compression**
    - **Bone, Joint and Soft Tissue Infection**
    - **Multiple Trauma (Pelvic Fracture)**
    - **Acute Joint Dislocations**

## II. FRACTURES / TRAUMA

**Learning Outcome 1 (clinical assessment):**

1. The ability to specify the symptoms, signs and immediate complications; to outline the assessment and appropriate investigation and; to outline the immediate and long term management of patients with: (see the list down)
2. To be able to describe and interpret the radiological findings of the fractures and to identify abnormality from normality with respect to fracture displacement, comminuation, and intra- or extra-articular involvements.

**Learning Outcome 2 (Management):**

1. To be able to understand and contrast between adult and pediatric with respect to growth plate injury, healing and remodeling, principles of treatment, and expected complications.
2. To demonstrate knowledge of indication of non operative treatment and to know the most common non-operative procedures for fracture and dislocation. This includes closed reduction, immobilization such as Plaster of Paris or elastic wraps; e.g. distal radius fracture / shoulder dislocation.
3. To be able to describe the surgical principles of reduction, fixation and immobilization for fracture and multiple trauma management. This includes familiarity with the treatment of the most common fractures such as hip, wrist and ankle fractures. To know the most common operative procedures

for fracture and dislocation. This includes open reduction, the use of internal and external fixation devices.

- **Common Adult Fractures**

  - **Upper Limbs**
    - Clavicle
    - Humerus (proximal and shaft)
    - Both Bone Forearm
    - Distal Radius
  - **Lower Limbs**
    - Femur (shaft)
    - Hip Fractures (neck, IT)
    - Tibia (shaft)
    - Ankle (M.M., L.M., B.M.)
  - **Pelvic**
    - Unstable fractures
    - Stable fractures

- **Common Pediatric Fractures and Trauma**

  - **Upper Limbs**
    - Supracondylar Fracture
    - Distal (Radius)
    - Clavicle
  - **Lower Limbs**
    - Femur Fracture
  - **Growth plate injuries**

- **Peripheral Nerve Injuries and neuropathies**

  - **-Types**
  - **-Management**

- **Acute Spine Injuries**
  - Stable vs. Unstable Injuries
  - Principles of Management

- **Soft Tissue Injuries**
  - Muscle, tendon, and ligament injuries
  - Knee
    - ACL
    - MCL
    - Meniscus
  - Ankle ligaments Sprain

- **Joint dislocation**
  - Anterior Shoulder Dislocation
  - Knee dislocation

## III. PEDIATRIC

**Learning Outcome:**

- The ability to outline the clinical features; to specify the symptoms and signs; to outline the assessment and investigations; to propose a differential diagnosis and; outline the principles of management of pediatric patient with conditions including:

    1. **Hip Conditions**
        - SCFE
        - DDH
    2. **Lower Extremities Condition**
        - Alignment / Rotational conditions
        - Gait Problems
        - Lower Extremities Deformities

## IV. NON-TRAUMATIC ORTHOPAEDIC CONDITIONS

### 1. Spine

**Learning Outcomes:**

- The ability to take a relevant history in the knowledge of the characteristics of the major conditions:
    - **Degenerative/Mechanical neck/back pain**
    - **Spinal cord or root entrapment (for example, herniated lumbar disc)**
    - **Vertebral fracture of osteoporotic origin**
    - **Spinal deformity (scoliosis)**
    - **Destructive (infectious and tumor related) back pain (for example, tuberculosis, metastasis, certain cancers)**
- The ability to specify the symptoms and signs; outline the assessment and appropriate investigation; propose a limited differential diagnosis and; outline the principles of management of a patient with:
    - **Low back pain and sciatica**

## 2. MSK Tumor

**Learning Outcomes:**

- The ability to specify the symptoms and signs; outline the assessment and appropriate investigation; propose a limited differential diagnosis and; outline the principles of management of a patient with:

  - **Metastatic bone disease**

  - **Primary bone lesions**
    - **Benign tumors**
      - Osteoid osteoma
      - Bone Cyst
        - UBC
        - ABC
        - GCT
      - Osteochondroma

    - **Malignant tumors**
        - Osteosarcoma
        - Ewing's sarcoma

## 3. Metabolic Bone Diseases

**Learning Outcomes:**

- The ability to specify the symptoms and signs; outline the assessment and appropriate investigation; propose a limited differential diagnosis and; outline the principles of management of a patient with:

  - **Osteoporosis**

  - **Osteomalacia and Rickets**

4. **Degenerative and Inflammatory Arthritis**

**Learning Outcomes:**

- The ability to specify the symptoms, signs, and predisposing factors; outline the assessment and appropriate investigation; propose a limited differential diagnosis and; outline the principles of management of a patient with:
    - **Degenerative OA**
    - **Inflammatory arthritis**
        - **Rheumatoid Arthritis**
        - **Gout**
        - **Seronegative spondyloarthropathy**

5. **Common Shoulder Conditions**

**Learning Outcomes:**

- The ability to specify the symptoms, signs, and predisposing factors; outline the assessment and appropriate investigation; propose a limited differential diagnosis and; outline the principles of management of a patient with:
    - **Impingement syndromes**
    - **Instability**
    - **Rotator cuff tendinopathies and tears**
    - **Adhesive capsulitis**
    - **AC joint problems**

## 6. Common Foot and Ankle Conditions

**Learning Outcomes:**

- The ability to specify the symptoms, signs, and predisposing factors; outline the assessment and appropriate investigation; propose a limited differential diagnosis and; outline the principles of management of a patient with:
    - **Hallux valgus**
    - **Plantar fasciitis**
    - **Flat feet**
    - **Diabetic foot**
    - **Charcot foot**

## V. CLINICAL AND DIAGNOSTIC SKILLS

### 1. History Taking skills

**Learning Outcomes:**

a) To identify abnormality from normality with respect to pain, displacement, dislocation stiffness, swelling, and limitation of activities by a history relevant to the musculoskeletal system.

b) To be able to take a relevant history in the knowledge of the characteristics of the major conditions of: bone; joints; connective tissue; nerve tissue and; muscle tissue as they relate to both acute and chronic injury or other disease process and to understand the impact on the individual of a chronic musculoskeletal condition due to impairment of function, limitation of activities and restriction of participation.

### 2. Physical Examination skills

**Learning Outcomes:**

a) The ability to: identify normality and abnormality by examination of the musculoskeletal system; to be able to perform focused physical examination of major joints:

1) **Shoulder**
2) **Hip**
3) **Knee**

4) **Foot and Ankle**

5) **Spine**

6) **Peripheral Nerve**

The objectives for the joints physical examinations were summarized on table, which attached at the appendix.

1. **Shoulder**

**Learning Outcome:**

By the end of the teaching session, Students should be able to identify normality and abnormality of the shoulder joint by performing a proper physical examination.

To achieve this, Students should **be able to**:

- Look for; alignment, deformity, muscle wasting, skin changes, swelling, or scars
- Palpate for; bony or soft tissue tenderness, and temperature
- Test the joint's ROM both actively and passively
    - Forward Flexion. The motion involved in reaching forward and up to a cupboard above the head. This is measured from zero (lowest) to 180 degrees.
    - Abduction: 0 degree beside body and 180 at maximum Abduction
    - External rotation: Ask the patient to keep the upper arms flat against his/her sides and rotate the forearms outward. The range is from zero (straight ahead) to 80-90 degrees.
    - Internal Rotation: Ask the patient to rotate his arm across his back and walk the fingers as far up the back as possible, recording this by vertebral level. (inferior tip if scapula is =T7, Iliac crest=T5)
    - Note if painful/painless.

- Attempt passive ROM if active ROM is limited or painful.

- **Do special tests like**:

    - Rotator cuff integrity and strength:
        - Supraspinatus:
            - Empty can test/Jobe test
                - Resisted abduction with the arm in 90 abduction, 30 of forward elevation in the plane of the scapula and maximally internally rotated. A positive test occurs when there is pain with weakness.
        - Subscapularis:
            - lift-off test
        - Infraspinatus+Teres minor:
            - Resisted external rotation with arm against body side
    - Stability
        - Apprehension test
            - Can be done at any position
    - Impingement syndrome:

        - Neer's impengment sign:
            - pain with FF with humerus in Internal rotation position
        - Hawkin's test:
            - With the arm in the throwing position (90 degree of FF) and flexed forward about 30 degrees, forcibly internally rotate the humerus. Pain suggests impingement of the supraspinatus tendon against the coraco-acromial ligament.

## 2. Hip

By the end of the teaching session, Students should be able to identify normality and abnormality of the hip joint by performing a proper physical examination.

To achieve this, Students should **be able to**:

- Look for; abnormal gait, alignment, deformity, muscle wasting, skin changes, swelling, or scars
- Palpate for; bony or soft tissue tenderness, and temperature
- Test the joint's ROM both actively and passively
- **Do special tests like:**
    - Thomas Test
        - Start with **Thomas Test** to assess for FFD by fully flexing opposite side
        - If **Thomas Test** is positive, assess flexion and extension with the patient lying on side while stabilizing the pelvis.
    - Trendelenburg's Sign
    - Measure true LLD

**3. Knee**

**Learning Outcome:**

By the end of the teaching session, Students should be able to identify normality and abnormality of the knee joint by performing a proper physical examination.

To achieve this, Students should **be able to**:

- Look for; abnormal gait, alignment, deformity, muscle wasting, skin changes, swelling, or scars
- Palpate for; bony or soft tissue tenderness, temperature, and joint line tenderness
    - Identify joint line in flexion of 80-90 degrees and comment if tender (suggestive of arthritis or meniscal pathology)

- Test the joint's ROM both actively and passively
    - Active R.O.M and compare, normally from -5 to calf touching thigh
    - Passive ROM if abnormal.
    - Be able to approximately describe ROM in degrees
    - Comment on pain or crepitus with movement

- **Do Special Tests like:**
    - Knee effusion
        - Milking test:
            - In extension milk then knee medially upwards to fill the suprapatellar pouch and hold fluid in pouch with one hand then run other hand laterally downwards and look for filling medially (moderate effusion)
        - Patellar tap:
            - In extension tap the patella downward and feel the patella bounce on the femur (large effusion)
    - ACL examination:
        - Anterior Drawer test at 90 degree
        - Lachman's test at 30 degree
    - PCL examination:
        - Posterior Drawer test at 90 degree
    - MCL examination
        - Valgus stress test
            - At 30 degrees for MCL, if positive (pain +- opening) then repeat in extension
    - LCL examination
        - Varus stress test

        - At 30 degrees for LCL, if positive (pain +- opening) then repeat in extension
    - Patella instability
        - Apprehension test
            - Start in extension with relaxed quadriceps, push patella laterally, then passively flex flex the knee to 30 degrees, at any point if patient contracts his quadriceps aggressively or becomes apprehended stop and identify test as positive

## 4. Foot and Ankle

By the end of the teaching session, Students should be able to identify normality and abnormality of the foot & ankle joints by performing a proper physical examination.

To achieve this, Students should **be able to**:

- Look for; abnormal gait, alignment, deformity, muscle wasting, skin changes, swelling, or scars
- Palpate for; bony or soft tissue tenderness, temperature, and joint line tenderness
- Test the joint's ROM both actively and passively
    - Active and passive ankle ROM (dorsiflexion and planterflexion)
    - Passive subtalar ROM (ankle to neutral, and stabilize it then apply inversion and eversion to assess subtalar ROM). N.B: note if painful or painless
- **Do special tests like:**
    - Anterior drawer test

- With ankle planterflexion to evaluate anterior talofibular ligament

- If patient has flat foot: you will ask the pt to tip toe to check if it is flexible or rigid flatfoot, you have to observe if the heel will correction from valgus to varus or not as well as mid foot arch reconstitution.

- Thompson test

**5. Spine**

**Learning outcome:**

By the end of the teaching session, Students should be able to identify normality and abnormality of the spine by performing a proper physical examination.

To achieve this, Students should **be able to**:

- Look for; abnormal gait, alignment, deformity, muscle wasting, skin changes, swelling, or scars
    - Abnormal Gait types: Antalgic, Trendelenberg, waddling.
    - Heel and toe walking: unable to heel walk= L4 weakness, unable to toe walk= S1 weakness
- Palpate for; bony or soft tissue tenderness, and temperature
    - Palpate spinous processes for tenderness, steps or gaps
- Test the spine's ROM both actively and passively
    - Start with active ROM in all 6-directions
        - Flexion. Record as such: able to touch toes/shins/knee/thighs…etc.
        - Extension: normal around 30°
        - Lateral bending: normal around 30°
        - Rotation: normal around 40°
    - Note if painful/painless.

        - Attempt passive ROM if active ROM is limited and painless, record.

- **Do special tests like:**
    - Adams Forward bending test
        - Adams Forward bending test: full forward flexion until back is horizontal to the floor. If thoracic scoliosis is present, then rib hump will become visible.
    - Straight leg raising test (SLRT)
        - With the patient supine, passively elevate the leg –the examiner's hand behind the heel- with knee extended while observing the patient's face for sign of discomfort.
        - A positive test is reproduction of sciatica-i.e. sharp shooting pain that radiates below the knee- between 30° and 70°of hip flexion.
            - The pain is aggravated with dorsiflexion of the ankle and relieved with knee flexion.
            - Hamstring tightness and knee or hip pain should be distinguished from a true positive SLR.
                - Screening Hip and knee examination (e.g. rotation of the hips, joint line tenderness at the knees) should be done to rule out hip or knee OA which can be confused with sciatica.
    - Nerve roots examination
        - Motor: Hip flexion=L2, knee extension=L3, Ankle dorsiflexion=L4, EHL=L5, Ankle plantar flexion=S1.
        - Sensory: dermatomes.
        - Tone: normal, flaccid or rigid.
        - Reflexes: knee & ankle jerks.

## 6. Peripheral Nerve

### Learning Outcome:

By the end of the teaching session, Students should be able to identify normality and abnormality by of the peripheral nerve by performing a proper physical examination.

To achieve this, Students should **be able to**:

- Examine the **Median** nerve by:
  - Looking for thenar muscle wasting.
  - Testing the thumb abduction or opposition (opposition of thumb to little finger and NOT to index finger for OK sign).
  - Testing the fine touch sensation over volar aspect of index finger
- Examine the **Ulnar** nerve by:
  - Looking for hypothenar muscle wasting, claw hand
  - Testing the finger abduction strength.
  - Looking for froment's sign
  - Testing the fine touch sensation over volar aspect of little finger
- Examine the **Radial** nerve:
  - Looking for drop wrist sign.
  - Testing the wrist extension strength.
  - Testing the fine touch sensation over dorsal aspect of first web-space
- Examine the **Femoral** nerve by:
  - Looking for Quadriceps wasting
  - Testing the knee extension strength.
  - Testing the sensation over the medial aspect of leg and foot (saphenous nerve).
- Examine the **Common Peroneal** N by:
  - Looking for drop foot sign or anterior leg muscle wasting
  - Testing the ankle Dorsiflexion strength
  - Testing the sensation over the dorsal aspect of foot

- Examine the **Tibial** N by:
  - Looking for calf muscle wasting
  - Testing the ankle plantar flexion strength
  - Testing the sensation over the plantar aspect of foot

**3. Interpretation skills (investigations)**

**Learning Outcomes:**

The ability to order and to demonstrate an appropriate use and interpretation of appropriate investigations including: radiography, CT/MRI/bone scan, MSK U/S, Blood work (WBC, differential, ESR/CRP) synovial fluid analysis, and EMG/NCS.

## VI. Procedural Skills

**Learning Outcomes:**

The ability to perform common orthopaedic procedures performed at ER like:

1. **Closed reduction of fractures and dislocated joints and understand the principles of management and to know when to refer to further subspecialty care.**
2. **Knee joint aspirations.**
3. **Apply and remove a cast**

## VII. Interpersonal and Communication Skills

**Learning Outcomes:**

Demonstrates interpersonal and communication skills that results in the effective exchange of information and collaboration with colleagues, nurses, teaching faculty, patient, and health professionals.

## VIII. Attitude and Professionalism

**Learning Outcomes:**

Demonstrate a commitment to carry out professional responsibilities by exhibiting appropriate professional behavior during the course, which includes honesty, integrity, commitment, compassion, respect and confidentiality.

**Educational Strategies:**

New teaching and learning strategies have been implemented in this course. The main goal is to engage students in the learning process and hence, resulted in an active learning rather than just a passive learning. Because students learn more when information is presented to them in a variety of modes than when only a single mode is used. Different teaching methods have been utilized in this course in order to engage all learners.

In order to engage the students on an active learning process, the traditional large group teaching method (e.g. lecture) has been minimized as much as possible. Lectures do not usually provide evidence of students' understanding and knowledge application—that is explored in small group teaching and learning. A variety of small group teaching methods have been utilized in this course. Small group work encourages high level of interaction, deep learning and higher-order activities - e.g., problem solving, analysis and synthesis.

**Teaching and Learning Methods:**

A. Lecture (Large group)

B. Case-based learning –CBL- (Small group)

C. Small group tutorial (Small group)

D. Practical "Hands-on" session (Small group)

E. Clinical "bed-side" session (Small group)

F. Ambulatory care teaching (Small group/One-to-One)

## A. Lecture (Large Group):

There will be no more than one lecture per day. Each lecture is 2 hours maximum divided in tow parts, with 15 minutes break in between.

1. Introduction to the Orthopaedics
2. Orthopaedic History Taking
3. Diagnostic imaging & investigations in Orthopaedics
4. Principles of Fracture
5. Common Adult Fractures
6. Common Pediatric Fractures
7. Open Facture/ Fracture with NV compromise/Pelvic Fracture
8. Acute Joints Dislocation and Compartment Syndrome
9. Bone and Joint Infection
10. Acute Spinal Injuries and Cauda Equina Syndrome
11. Common Pediatric Hip Disorders
12. Common Pediatric Lower Limb Disorders
13. Common Spine Disorder
14. Sport and Soft Tissue Injuries
15. Inflammatory and Degenerative Joint Disorders
16. MSK Tumors
17. Metabolic Bone Disorders
18. Common Shoulder Problems
19. Common Peripheral Nerve Problems and Injuries
20. Common Foot and Ankle Problems

## B. Case-Based Learning - CBL (Small Group):

CBL allows students to develop a collaborative, team-based approach to their education. Also, it helps them to improve their analysis, problem solving, and communication skills. Students learn best through practical applications of what they have learned; they tend to be problem-centered rather than subject-centered learners. Students can acquire new skills and information as they problem solve. In CBL, real clinical case scenario or

clinical problem is used to stimulate and underpin the acquisition and application of knowledge and skills, and promote authentic learning.

In this course, there will be six cases, which generally written as problems that provide the student with a background of a patient or other clinical situation. These cases represent the most common problems that can face any general practitioners in their practice.

a. How to approach adult patient with a fracture
b. How to approach pediatric patient with a fracture
c. How to approach a patient with chronic joint pain
d. How to approach a patient with acute a traumatic painful joint swelling
e. How to approach a patient with low back pain
f. How to approach a limping child

**C. <u>Small Group Tutorial (Small Group):</u>**

a. Management of multiple trauma patient in ER
b. Management of open fracture in ER
c. Orthopaedic surgical procedures

**D. <u>Practical "Hands-on" Session (Small Group):</u>**

a. Application and removal of splint/cast:
    i. Above and below elbow cast/splint
    ii. Above and below knee cast/splint
b. Principles of fractures & joints dislocation reduction.
    i. Colles' fracture
    ii. Anterior shoulder dislocation
c. Knee joint aspirations.

**E. Clinical "bed-side" Session (Small Groupp:**

There will be six physical examination sessions for each small group. Simulated patients will be utilized for every session.

a. Shoulder Examination
b. Hip Examination
c. Spine Examination
d. Knee Examination
e. Foot and Ankle Examination
f. Peripheral Nerve Examination

**F. Ambulatory Care Teaching (Small Group/One-to One)**

a. Each student will have a chance of take, present, and discuss patient history with the attending staff two times during the course.
b. Each student will have chance to attend three clinics
    i. Two orthopaedic clinic
    ii. One fracture clinic
c. The ambulatory care teaching place is an excellent setting for learning the following:
    1) History taking & physical examination Skills
    2) Images and other investigation interpretation skills
    3) Communication skills

**Teaching and Learning Places:**

1. Lecture Theater
2. Seminar Rooms
3. Simulation Center
4. Outpatient Clinics
5. Operative Room
6. Emergency Room
7. Plaster Room

**Learning Resources:**

- Books
    - Apley's Concise System of Orthopaedics and Fractures
    - CURRENT Diagnosis & Treatment in Orthopedics
    - Clinical orthopaedic examination. Ronald McRae

- Tutorials / Lectures
- CBLs
- Handouts
- Simulation

Although, attending the required and scheduled teaching activities constitute the main source for learning and exam preparation.

**Assessment:**

The undergraduate committee has made huge efforts in order to provide accurate, reliable, and fair assessment. To pass this course, students have to be competent with the knowledge and skills essential for the provision of patient care. The learning outcomes and objectives for this course will be considered as the main drive for the assessment methods.

In this course, students' achievement of these competencies is assessed through a variety of methods that include; Mini-Clinical Evaluation Exercise (Mini-CEX), Directly Observed Procedural Skills (DOPS), Case-Based Discussion (CBD), Group presentation, written exam (MCQs), Objective Structured Clinical Examination (OSCE), and Objective Structured Assessment of Technical Skills (OSATS).

1. **Continuous Assessment**
    a. 20% of the total marks
    b. Clinical skills (5%)
        i. Assessment method: Mini-CEX
        ii. Will be conducted at OPD
        iii. Each student will have chance to do it at least two times to interview and clinically assess a real patient and discuss it with faculty
        iv. Scope of assessment:
            1. History taking & physical examination Skills
            2. Investigation interpretation & diagnostic skills
            3. Communication & organization skills
    c. CBL (10%)
        i. Assessment method: group presentation+ CBD
        ii. Total of six CBLs

iii. Each 2-3 students will share in preparing, presenting, and discussing a real case (one CBL only) with their peers. (5%)

iv. The rest of the mark (5%) will be given upon attending the other five CBLs. However, student need to be well prepared by reading the assigned materials and actively involved in the discussion.

d. Hands-on Skills Sessions (5%)

i. Assessment method: DOPS

ii. Ability to perform all required clinical and procedural skills in a proper technique.

iii. Clinical skills will include six sessions of physical examinations

iv. Procedural skills will include the three sessions

1. Knee aspiration
2. Cast application and removal
3. Fracture reduction

**2. Mid-term examination**

a. 40% of the total marks

b. Mainly for clinical and procedural skills assessment

c. At least six stations

d. Six minutes for each station

e. Combined OSCE & OSATS

f. OSCE

i. History Taking skills

ii. Physical examination skills

iii. Communication skills

iv. Counseling skills

g. OSATS

i. Technical and procedural skills

**3. Final Written Examination (40%)**

a. Multiple choice questions
b. 80 MCQs
c. All questions will be a single best answer questions
d. Exam will be conducted through the computers
e. Clinical Scenarios / Images
f. The undergraduate committee and the course organizer has the authority and the responsibility to develop the number of questions for each topic delivered to the students according to a well structured exam blue-print, which covered all curriculum contents and matched to the learning outcomes and objectives stated earlier.
g. 1½ minutes will be given for each question; total of 2 hours
h. MCQ sample is provided at the appendix

**Examination Policy and Procedures:**

- All students are expected to take examinations on the date and time they are scheduled. Being unprepared for an exam due to poor time management is not an acceptable excuse for rescheduling an exam.

- Only those students with an attendance of at least 75% will be allowed to sit the course exam. No student will be allowed in the examination room if their name did not appear in the student's examination list. They should sit in the exam hall with their respective names only.

- A student, who does not attend the final examination without a valid excuse he/she is given a grade of "0". However, if he/she does not attend due to a valid reason accepted by the College Board, then he/she is required to sit a remedial examination.

- If a student has an unexpected temporary disability or a medical condition that the bars/prevent him/her to sit for the exam then he/she has to provide a detailed medical report to the Academic Guidance Committee and the student has to sit for re-sit examination, provided that he/she has been granted an approval letter from the Vice Dean for Academic for the final examination.

- To pass this course, you need to pass both written examination in the form of MCQs & clinical/ technical skills examination in the form of OSCE+OSATS. Scores obtained from one examination cannot compensate from other examination.

**Instructions for the Students on Day of Exam:**

- A student who arrives in the examination hall within the first 30 minutes after the commencement of the examination shall be permitted to attend the examination, but will not be allowed any extra time. However, students who arrive in the examination hall after 30 minutes of the commencement of the examination shall not be permitted to sit the exam.

- Each student shall be asked by the invigilators to show their identification card in each examination. Failure to provide a proof of identification during an exam may result in expulsion from the exam room.

- No student is allowed to leave the examination before the first half of the total duration of the exam.

- Mobile phones, flash cards, electronic dictionaries, iPods, books, bags, notes, or any electronic devices are not permitted in any examination room. The College does not take any responsibility for materials left by students outside the examination hall.

- All students are requested to comply with the college dress code and should wear their proper I.D.

- If a student becomes ill during the examination and temporarily leaves the examination room, under supervision, he/she shall not be given extra time as compensation.

- If the student is unable to continue the examination, the invigilator shall document the incidence and report the matter to the Assessment and Evaluation Centre, Department of Medical Education. The Vice-Dean for academic affairs shall determine and appropriate action will be taken.

**Attendance:**

- All educational activities are valuable and important components of this course learning experience. It is highly recommended that students **MUST** attend all activities.
- Students should contact their course director regarding any requests for being excused from a scheduled session.
- All students are expected to come to class in professional dress consistent with College of Medicine Policy.
- Students should be on time and attentive during the presentation (laptops closed, cell phones on silent mode, no texting etc).
- If a student cannot attend due to illness or other reason, he/she must contact the course director in advance.
- If a student misses more than 25% of the course activities, without any valid excuse or reasons he/she shall not be allowed to sit for final course examination and shall be given a grade of Denied (DN).

## Course & teaching faculty Evaluation

Course evaluations are part of Orthopaedic department commitment to excellence in teaching and learning.

We guide 452-course improvement through evaluating the effectiveness of the educational program in ongoing manner using students evaluations of their courses and faculty, and documenting the extent to which our curriculum objectives have been met.

Evaluations are your way to comment on the learning environment during the course and improve it for future medical students. The evaluation system is a confidential avenue for submitting honest, constructive feedback about the instructors and courses you experienced. Your full participation is needed to successfully initiate curricular change and improve the course.

## Type of evaluation (forms included in appendix)

1. Instructor Evaluation: there will be two forms
    a. Large group (lecture) evaluation
    b. Small group (CBL) evaluation
2. Course Evaluation

# Curriculum Map

| Competency Domain | | | Learning outcomes "By the end of the course, students will be able to:" | Curriculum Core Competencies | Teaching and Learning Methods | Teaching Place | Assessment Methods |
|---|---|---|---|---|---|---|---|
| **Knowledge** | | | **Demonstrate essential knowledge required to:**<br>**A) Diagnose, initially manage and to know when to immediately refer a patient with a condition that requires urgent specialist management.**<br>**B) Specify the symptoms, signs and immediate complications; to outline the assessment and appropriate investigation and; to outline the immediate and long term management of patients with common and community related orthopedic conditions and musculoskeletal trauma.** | **1. EMERGENCIES / RED FLAGS**<br>**2. FRACTURES / TRAUMA**<br>**3. PEDIATRIC ORTHOPAEDIC CONDITIONS**<br>**4. NON-TRAUMATIC ORTHOPAEDIC CONDITIONS** | **1. Lectures**<br>**2. CBL**<br>**3. Small group Tutorial**<br>**4. Ambulatory care teaching** | **1. Lecture Theatre**<br>**2. Seminars Room**<br>**3. Outpatient clinics** | **Continuous assessment:**<br>**Group presentation**<br>**Final assessment:**<br>**MCQS** |
| **Skills** | **Clinical Skills** | **History Taking** | **Obtain a relevant and a focused MSK HISTORY in the knowledge of the characteristics of the major conditions of: bone; joints; connective tissue; nerve tissue and; muscle tissue.** | **1. History taking in Orthopaedics**<br>**2. Physical Examination sessions:**<br>• **Hip**<br>• **Knee**<br>• **Foot & ankle**<br>• **Shoulder**<br>• **Peripheral nerves**<br>• **Spine** | **1. Clinical bedside teaching**<br>**2. Ambulatory care teaching**<br>**3. CBL** | **1. Outpatient clinics**<br>**2. Seminars room**<br>**3. In-patients floor** | **Continuous Assessment:**<br>**Mini-CEX**<br>**DOPS**<br>**Final assessment:**<br>**OSCE** |
| | | **Physical Examination** | **Perform a focused physical examination of major joints (shoulder, hip, knee, foot and ankle, PN and spine)** | | | | |
| | **Diagnostic Skills** | | **Interpret and demonstrate an appropriate use of investigations including:**<br>**radiography, CT/MRI/bone scan, MSK U/S, serology, synovial fluid analysis, and EMG/NCS.** | **Diagnostic Imaging and Investigations in Orthopaedics** | **1. Lectures**<br>**2. CBL**<br>**3. Small group tutorial**<br>**4. Ambulatory care teaching** | **1. Lecture theater**<br>**2. Seminars room**<br>**3. Outpatient clinics** | **Continuous assessment:**<br>**Group presentation**<br>**Final assessment:**<br>**MCQS** |
| | **Procedural Skills** | | **Perform a common non-surgical orthopaedic procedures** | **1. Application and removal of splint/cast**<br>**2. Fractures and Joints Dislocation Reduction**<br>**3. Knee Joint Aspirations** | **Practical "Hands-on" session:**<br>**1. Cast/Splint application and removal**<br>**2. Fracture reduction**<br>**3. Knee aspiration** | **1. Simulation Center**<br>**2. Plaster room** | **Continuous assessment:**<br>**DOPS**<br>**Final assessment:**<br>**OSATS** |
| | **Communication Skills** | | **Demonstrates interpersonal and communication skills that result in the effective exchange of information and collaboration with patient, their families and health professionals.** | | **1. Clinical bedside teaching**<br>**2. Ambulatory care teaching**<br>**3. CBL** | **1. Outpatient clinics**<br>**2. Seminars room**<br>**3. In-patients floor** | **Continuous assessment:**<br>**Mini-CEX**<br>**Group presentation**<br>**Final assessment:**<br>**OSCE** |
| **Attitude** | | | **Demonstrates a commitment to carrying out professional responsibilities by exhibit appropriate professional behaviors during the course, including honesty, integrity, commitment, accountability and respect** | | **Attending all teaching activities** | | **Performing all required assignments.**<br>**Attendance all teaching activities**<br>**Respect colleagues and faculty** |

# Physical Examination

| Joint | | Look (Inspection) | Feel (Palpate) | Move | Special Test |
|---|---|---|---|---|---|
| **Shoulder** | | • Alignment<br>• Deformity<br>• Muscle wasting<br>• Skin changes<br>• Swelling<br>• Scars<br>• Abnormal **G**ait | • Bony or soft tissue tenderness<br>• Temperature | ROM both actively and passively | • Empty can test/Jobe test<br>• Lift-off test<br>• Resisted external rotation<br>• Apprehension test<br>• Neer's impingement sign<br>• Hawkin's test |
| **Hip** | | | | | • Thomas Test<br>• Trendelenburg's Sign<br>• Measure true LLD |
| **Knee** | | | | | • Knee effusion<br>• ADT<br>• Lachman's test<br>• PDT<br>• Valgus stress T<br>• Varus stress T<br>• Patella apprehension T |
| **Foot and Ankle** | | | | | • Anterior drawer test<br>• Thompson test. |
| **Spine** | | | | | • Adams Forward bending test<br>• Straight leg raising test (SLRT)<br>• Nerve roots examination |
| **Peripheral Nerve** | **Median N** | Thenar muscle wasting | Fine touch sensation over volar aspect of index finger | Thumb abduction or opposition | |
| | **Ulnar N** | • Hypothenar muscle wasting<br>• Claw hand | Fine touch sensation over volar aspect of little finger | Finger abduction strength. | Froment's Sign |
| | **Radial N** | Drop wrist sign. | Fine touch sensation over dorsal aspect of first web-space | Wrist extension strength. | |
| | **Femoral N** | Quadriceps wasting | Sensation over the medial aspect of leg and foot (Saphenous nerve). | Testing the knee extension strength. | |
| | **Common Peroneal N** | • Drop foot sign<br>• Anterior leg muscle wasting | Sensation over the dorsal aspect of foot | Ankle Dorsiflexion strength | |
| | **Tibial N** | Calf muscle wasting | Sensation over the plantar aspect of foot | Ankle plantar flexion strength | |

# STUDENT'S ASSESSMENT AND ATTENDANCE FORM

College of Medicine
Department of Orthopaedics
Orthopaedic Course 452

**CBL Assessment Form**

CBL NO.: _____

Student's ID No. _____Group No. _____
Student's Name:_____
Tutor's Name: _____

**1=Unsatisfactory 2=Poor 3=Good 4=Very good 5=Excellent**

**1. Preparation and participation:**

**Ability to:**

| | | | | | |
|---|---|---|---|---|---|
| • Contribute actively to discussion | 1 | 2 | 3 | 4 | 5 |
| • Use evidence when debate an issue | 1 | 2 | 3 | 4 | 5 |
| • Demonstrate critical analysis skills | 1 | 2 | 3 | 4 | 5 |
| • Integrate knowledge | 1 | 2 | 3 | 4 | 5 |
| • Demonstrate deep understanding | 1 | 2 | 3 | 4 | 5 |

**Total Marks = 25**

**2. Professional behaviour:**

Ability to:

| | | | | | |
|---|---|---|---|---|---|
| • Come to tutorials on time | 1 | 2 | 3 | 4 | 5 |
| • Communicate effectively | 1 | 2 | 3 | 4 | 5 |
| • Demonstrate good manners | 1 | 2 | 3 | 4 | 5 |
| • Keep the group focused | 1 | 2 | 3 | 4 | 5 |
| • Give and receive feedback | 1 | 2 | 3 | 4 | 5 |

**Total Marks = 25**

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**Tutor's Name:** **Signature:** **Total maximum Marks for the case = 50 /10 = 5 marks**

**Comments:**

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# CBL ATTENDANCE

Tutor's Name: _____

CBL NO.: _____

Student's Name:_____

Date: _____ Signature: _____

| No. | Students' Name | Computer No. | Attends Only | Attends and participate to the discussion |
|---|---|---|---|---|
| | | | | |
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# SKILLS ASSESSMENT ATTENDANCE

Tutor's Name: _____

Skills Type: _____

Student's Name:_____

Date: _____ Signature: _____

| No. | Students' Name | Computer No. | Attends only | Performed required skills | Performed required skills correctly |
|---|---|---|---|---|---|
| | | | | | |
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# COURSE & FACULTY EVALUATION FORMS

KING SAUD UNIVERSITY
COLLEGE OF MEDICINE

# Students Evaluation Form for Course and its Assessment System

**Dear students, we are conducting this survey to improve the course and its assessment system. Your participation is highly appreciated by the faculty members. This is a confidential and voluntary survey. So, if you don't like to participate, you can ignore either the entire questionnaire or a part of it. This will not affect your relationship with your tutors or your exam scores.**

| A. | Course Outlines, Objectives & its assessment system | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 1 | Course outlines were made clear to me at the beginning of the course | | | | | |
| 2 | Things to do to succeed in the course, were made clear to me | | | | | |
| 3 | Contents of course assessment were consistent with the course outlines and objectives | | | | | |
| 4 | Course assessment system is appropriate | | | | | |
| 5 | Continuous assessment helped me in understanding the course contents. | | | | | |
| 6 | All materials assessed were from the curriculum | | | | | |
| 7 | Marks distribution of the course assessment is appropriate | | | | | |
| 8 | Feedback was provided on continuous assessment performance | | | | | |
| 9 | Continuous assessment helped me prepare for the final exam | | | | | |
| 10 | Assessment directed me to develop my knowledge and skills. | | | | | |
| B | Objective Structured Clinical Examination | | | | | |
| 11 | Number of OSCE stations was appropriate to cover the course | | | | | |
| 12 | Instructions for students were clear to complete the task | | | | | |
| 13 | Time provided for each station was enough to complete the tasks | | | | | |
| 14 | Patients (simulated) were well trained to act the role provided | | | | | |
| 15 | This OSCE should minimize the chance of students failing | | | | | |
| 16 | OSCE covered a wide variety of clinical and procedural skills | | | | | |
| 17 | OSCE has a positive effect on our learning | | | | | |
| 18 | Examiner(s) treated me with respect during exam | | | | | |
| 19 | This OSCE was the most stressful type of clinical skills assessment | | | | | |
| 20 | The OSCE highlighted our weaknesses in clinical & procedural skills | | | | | |
| 21 | Exam well organized and administered | | | | | |

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# Instructor Evaluation

## Small Group Teaching (CBL)

**1=Strongly Disagree / 2= Disagree / 3=Neither Agree nor Disagree / 4= Agree / 5=Strongly Agree / N/A=Not Applicable**

| | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| **Stated expectations/Objectives clearly and concisely.** | | | | | | |
| **Encouraged learners to participate actively in discussion.** | | | | | | |
| **Communication of medical knowledge** (e.g., in presentations and in articulation of clinical reasoning) | | | | | | |
| **Stimulation of problem solving** (e.g., asking effective questions) | | | | | | |
| **Effectively elicited learner's ability to analyze or synthesize medical knowledge.** | | | | | | |
| **Effectively elicited learner's ability to apply medical knowledge to specific patients.** | | | | | | |
| **Guided the group by asking open-ended questions.** | | | | | | |
| **Encouraged learners to bring up concerns.** | | | | | | |
| **Encouraged the integration of learning issues in basic sciences with clinical experiences** | | | | | | |
| **Promoted reasoning skills, which included:** problem definition, mechanisms, hypothesis formation, hypothesis testing and hypothesis re-ranking. | | | | | | |
| **Encouraged students to use evidence and data in presenting their reasoning** | | | | | | |
| **Offered learners suggestions for improvement.** | | | | | | |
| **Encouraged the group to determine appropriate learning issues.** | | | | | | |
| **Showed enthusiasm** | | | | | | |
| **Relationship with students** (e.g., supportive, patient, empathetic, approachable, respectful, courteous, punctual, accessible for help, enthusiasm for teaching) | | | | | | |
| **Provided constructive feedback.** | | | | | | |

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# Instructor Evaluation

## Large Group Teaching (Lecture)

**1=Strongly Disagree / 2= Disagree / 3=Neither Agree nor Disagree / 4= Agree / 5=Strongly Agree / N/A=Not Applicable**

| | | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|---|
| 1 | **Quality of Content** | | | | | | |
| | Was organized | | | | | | |
| | Was clear and easy to take note from | | | | | | |
| | Usefulness of instructional material (e.g., Power Points/visual aids/handouts). | | | | | | |
| 2 | **Relevance/important of instructional materials** | | | | | | |
| | Relevant to the course | | | | | | |
| | Adequately established the importance of the presented material | | | | | | |
| | Objectives clearly stated at the beginning | | | | | | |
| 3 | **Constructive interactions/ Teaching skills** | | | | | | |
| | Encouraged questions, responded to questions in a timely manner | | | | | | |
| | Guided the group by asking open-ended questions. | | | | | | |
| | Encouraged learners to participate actively in discussion. | | | | | | |
| 4 | **Professionalism**<br>Please consider whether the faculty demonstrated a high standard of professional behavior in the teaching setting, including showing respect for learners, supportive, patient, empathetic, approachable, respectful, courteous, punctual, accessible for help | | | | | | |
| 5. | **Effectiveness of Instructor** | | | | | | |
| | Ability to motivate and encourage learning | | | | | | |
| | Effectively communicate information | | | | | | |
| | Demonstration of confidence and content expertise | | | | | | |
| | Was enthusiastic | | | | | | |
| | Clearly audible | | | | | | |
| | Gave clear explanations | | | | | | |
| | Accessibility and availability | | | | | | |

# STUDENT'S TIMETABLE

# DEPARTMENT OF ORTHOPAEDICS
# SURG. COURSE 452
## Week 1

| DAYS | L E C T U R E S 8:00 – 10:00 A.M. | CLINICAL / SKILLS TEACHING (10:00 –12:00) | | | CLINICAL TEACHING / SMALL GROUPS DISCUSSION 1:00 – 3:00 P.M. | | |
|---|---|---|---|---|---|---|---|
| D A T E | | I | II | III | I | II | III |
| SUNDAY | INTRODUCTION/ ASSIGNMENTS | ORTHOPAEDIC HISTORY TAKING SKILLS | | | INTRODUCTION TO ORTHOPAEDICS | | |
| MONDAY | PRINCIPLES OF FRACTURES | X-RAY INTERPRETATION SKILLS | | | KNEE Examination | BACK Examination | SHOULDER Examination |
| TUESDAY | COMMON ADULT FRACTURE | OPD / PLASTER ROOM | SKILL (2) Cast Application & Removal DR. NADEEM | ED – Management of multiple injured Patient ED DOCTOR | SHOULDER Examination | KNEE Examination | BACK Examination |
| WEDNESDAY | COMMON PEDIATRIC FRACTURES | ED – Management of multiple injured Patient ED DOCTOR | OPD / PLASTER ROOM | SKILL (2) Cast Application & Removal DR. ASIF | BACK Examination | SHOULDER Examination | KNEE Examination |
| THURSDAY | EMERGENCIES/ RED FLAGS *Open fracture *Fracture with NV compromise *Pelvic fracture | SKILL (2) Cast Application & Removal | ED – Management of multiple injured Patient ED DOCTOR | OPD / PLASTER ROOM | Peripheral nerves / upper extremities Examination | HIP Examination . | FOOT / ANKLE Examination |

# DEPARTMENT OF ORTHOPAEDICS
# SURG. COURSE 452
## Week 2

| DAYS | L E C T U R E S | CLINICAL / SKILLS TEACHING (10:00 –12:00) | | | CLINICAL TEACHING / SMALL GROUPS DISCUSSION 1:00 – 3:00 P.M. | | |
|---|---|---|---|---|---|---|---|
| D A T E | 8:00 – 10:00 A.M. | I | II | III | I | II | III |
| SUNDAY | Emergency/Red flags<br>Bone & joint infection | SMALL GROUP MEETING | ED - Management of Multiple Injured Patient<br>ED DOCTOR | OPD / PLASTER ROOM | FOOT / ANKLE Examination | Peripheral nerves / upper extremities Examination | HIP Examination |
| MONDAY | EMERGENCY / RED FLAGS:<br>*Cauda Equina Syndrome<br>*Acute Spinal Injuries | OPD / PLASTER ROOM | OPERATING ROOM VISIT | ED - Management of Multiple Injured Patient<br>ED DOCTOR | HIP Examination | FOOT AND ANKLE Examination | Peripheral nerves/ upper extremities Examination |
| TUESDAY | Emergency/red flags<br>Compartment s.<br>Acute joint dislocation | PLASTER ROOM / OPD | SKILLS (3)<br>Management of Open Fracture | SMALL GROUP MEETING | FRACTURE CLINIC / PLASTER ROOM | CBL (1) | CBL (2) |
| WEDNESDAY | PAEDIATRIC<br>Common Lower Limb Disorder | OPERATING ROOM VISIT | SKILL (1)<br>Knee Aspiration | PLASTER ROOM / OPD | CBL (1) | SMALL GROUP MEETING | PLASTER ROOM / FRACTURE CLINIC |
| THURSDAY | PAEDIATRIC<br>Common Hip Disorders | ED - Management of Multiple Injured Patient<br>ED DOCTOR | SKILL (2)<br>Cast Application & Removal | SMALL GROUP MEETING | CBL (2) | CBL (2) | CBL (1) |

# DEPARTMENT OF ORTHOPAEDICS
# SURG. COURSE 452
## Week 3

| DAYS | LECTURES | CLINICAL / SKILLS TEACHING (10:00 –12:00) | | | CLINICAL TEACHING / SMALL GROUPS DISCUSSION 1:00 – 3:00 P.M. | | |
|---|---|---|---|---|---|---|---|
| DATE | 8:00 – 10:00 A.M. | I | II | III | I | II | III |
| SUNDAY | Degenerative JOINT DISORDERS | PLASTER ROOM / OPD | SMALL GROUP MEETING | SKILLS (3) Management of Open Fracture | SMALL GROUP MEETING | CBL (3) | CBL (4) |
| MONDAY | COMMON SPINE DISORDERS | SKILLS (3) Management of Open Fracture | PLASTER ROOM / OPD | OPERATING ROOM | CBL (4) | FRACTURE CLINIC / PLASTER ROOM | CBL (3) |
| TUESDAY | PERIPHERAL NERVE INJURIES | SKILL (1) Knee aspiration | OPD / PLASTER ROOM | | CBL (3) | CBL (4) | SMALL GROUP MEETING |
| WEDNESDAY | MSK TUMOURS | SKILL (2) Cast Application & Removal | SMALL GROUP MEETING | PLASTER ROOM / OPD | CBL (5) | PLASTER ROOM / FRACTURE CLINIC | CBL (6) |
| THURSDAY | CHRONIC SHOULDER DISORDER | SMALL GROUP MEETING | OPD / PLASTER ROOM | SKILL (2) Cast Application & Removal | CBL (6) | CBL (5) | PLASTER ROOM / FRACTURE CLINIC |

# DEPARTMENT OF ORTHOPAEDICS
# SURG. COURSE 452
## Week 4

| DAYS | L E C T U R E S 8:00 – 10:00 A.M. | CLINICAL / SKILLS TEACHING (10:00 –12:00) | | | CLINICAL TEACHING / SMALL GROUPS DISCUSSION 1:00 – 3:00 P.M. | | |
|---|---|---|---|---|---|---|---|
| D A T E | | I | II | III | I | II | III |
| SUNDAY | SPORT & SOFT TISSUE INJURIES | SMALL GROUP MEETING | PLASTER ROOM / OPD | SMALL GROUP MEETING | SMALL GROUP MEETING | CBL (6) | CBL (5) |
| MONDAY | METABOLIC BONE DISORDERS | MEETING DISCUSSION | MEETING DISCUSSION | MEETING DISCUSSION | PLASTER ROOM / FRACTURE CLINIC | SMALL GROUP MEETING | SMALL GROUP MEETING |
| TUESDAY | Common foot & ankle disorders | | | | COURSE REVIEW/ EXAM ORIENTATION | | |
| WEDNESDAY | | | | | | | |
| THURSDAY | **MID TERM EXAM** | | | | | | |

# MCQ Sample

**20-year-old male twisted his knee 10 days ago while he was playing football. At time of injury, he heard a pop in his left knee and he was unable to return to the game and reports a large amount of swelling in the knee. On examination today he has a moderate effusion, Lachman's test is negative, and lacks of 15 degree of extension both actively and passively. A coronal and Sagittal MRI is shown in Figures A and B, respectively.**

**Which of the following is the best explanation for why he lacks of full extension?**

a. **ACL tear**
b. **MCL tear**
c. **Displaced meniscus tear**
d. **Knee effusion**

**Figure A**

`

**Figure B**

# Orthopedic Surgery
## Final Examination
## Objective Structured Clinical Examination
## (OSCE)

## Information to the student

### Patient Brief Record / Brief Scenario:

A 20 year-old female presented to the clinic with a history of recurrent swelling and locking of the right knee.

### Task: (what is expected from the student)

**Perform a focused physical examination of the right knee in supine position.**

During examination, **explain** what you are doing, what you are looking for, and what you are finding as you go. When you are finished examining the patient, summarize your findings and diagnosis to the patient.

# Orthopedic Surgery
## Objective Structured Assessment of technical Skills
## (OSATS)

## Information to the student

### Patient Brief Record / Brief Scenario:

A 35-year-old lady presented to the ER after a twisting injury to her right ankle. She sustained an isolated closed bimalleolar fracture of her right ankle.

### Task: (what is expected from the student)

**Explain** and **demonstrate** how would you immobilize and align her right lower limb in a below knee slab.