PROGRAM SPECIFICATION FOR **Professional Diploma** IN SPORT SURGERY AND ARTHROSCOPY

(According to currently applied credit point bylaws)

ORTHOPEDIC SURGERY DEPARTMENT

FACULTY OF MEDICINE

MANSOURA UNIVERSITY

2020-2021/2021-2022

Professional training program specifications:

Program title: Sport surgery surgical skills training program.

University: Mansoura University

Faculty: Faculty of Medicine

Department: Department of Orthopedics & Traumatology

Organization: Mansoura knee, arthroscopy and sport surgery Unit

Academic Year: 2021

Duration: 12 months full time fellowship– Starting on January- June

Credit points: 90 points

Pre-requisites:

- MD Orthopedics or one of its equivalents
- MSc. Orthopedics or one of its equivalents + 2 years experience
- Egyptian fellowship in orthopedics or one of its equivalents

Academic director:

Abdelrahman Elganainy, MD. Professor of Orthopedics and sport surgery Mansoura University

Trainers:

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- Naser Seleem, MD. Associate Professor of Orthopedics and sport surgery Mansoura University
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- Kamel Yousef, MD. Lecturer of Orthopedics and sport surgery Mansoura University
- Ehab Ramadan, MD. Lecturer of Orthopedics and sport surgery Mansoura University

- Osama Gaarour, MD. Lecturer of Orthopedics and sport surgery Mansoura University

- **Date of Approval by the Faculty of Medicine Council of Assiut University:**
- **Date of most recent approval of Program by the Faculty of Medicine Council of Assiut University:**

Fees:

As regulated and approved by the Department and Faculty councils. LE 36000.

Aim of the Professional training program

The program is a professional training program in Knee, Arthroscopy and Sport Surgery that provides the advanced intellectual, clinical, and operative skills and the knowledge needed to enable the candidates to provide a high quality level of management for knee and shoulder Trauma, diseases, and deformities with high consideration to environmental safety and ethical attitudes.

Needs assessment:

The course is designed in response to the changing health needs of the Egyptian community, after a focus expert discussion conducted by the members of the orthopedic department committee.

Intended Learning objectives (ILOs)

A- **Knowledge and understanding (10%):**

1. Describe the normal Anatomy & Biomechanics of knee and shoulder & its Variations.
2. Describe the normal and abnormal growth and development of the musculoskeletal system of the knee and shoulder in children to adults.
3. Outline the various etiologies (genetic, developmental, metabolic, microbiologic, autoimmune, neoplastic, degenerative and traumatic) of different diseases & Deformities of knee & shoulder.
4. Discuss the pathoanatomy, pathophysiology, Pathomechanics, complications, and prognosis for different problems of knee & shoulder.
5. Outline new trends in the diagnosis (clinical and radiological), differential diagnosis, and management (operative and conservative) of common and complicated problems in the field of knee & shoulder surgery.
6. Identify the basics, methodologies & research tools and areas of updated research in the field of knee & shoulder surgery.

7. Describe the principles of quality and fundamentals of good practice in the field of knee & shoulder surgery.

B- Intellectual skills (15%):

1. Demonstrate proper scientific thinking to reach high level of management of common, rare and complicated knee & shoulder problems.
2. Design an appropriate diagnostic plan among various alternatives to reach a final diagnosis for knee & shoulder problems
3. Make accurate evidence based decisions & formulate appropriate management plans for individual patients presenting with complex disorders of the knee & shoulder.
4. Provide cost effective optimal patient care with maximum benefit from available resources.
5. Carry out the preoperative work up for patients.
6. Perform appropriate postoperative protocols after surgery.
7. Prescribe the specific rehabilitation program for each patient separately.
8. Make proper use of different types of orthoses & prostheses used for disorders of the knee & shoulder.
9. Evaluate the dialogues and debates related to the Orthopedics & Traumatology of knee & shoulder based on documented evidence.
10. Able to adapt to new developments & Conduct the research studies that will add to the practice and help in the development of knee & shoulder surgery.

C- Professional skills (70%):

1. Consent

1.1. Demonstrate sound knowledge of indications and contraindications including alternatives to surgery.

1.2. Demonstrate awareness of sequelae of operative or non operative management

1.3. Explains the perioperative process to the patient and/or relatives or carers and checks understanding

1.4. Explain likely outcome and time to recovery and checks understanding**.**

2. Pre-operative planning

2.1. Demonstrate recognition of anatomical and pathological abnormalities and relevant co-morbidities and selects appropriate operative strategies/techniques to deal with these

2.2. Demonstrate ability to make reasoned choice of appropriate equipment, materials or devices (if any) taking into account appropriate investigations

2.3. Check patient records, personally reviews investigations pre-operatively.

3. Pre operative preparation

3.1. Ensure the operation site is marked where applicable

3.2. Check in theatre that consent has been obtained

3.3. Give effective briefing to theatre team

3.4. Ensure proper and safe positioning of the patient on the operating table

3.5. Demonstrate careful skin preparation & draping of the patient's operative field

3.6. Ensure appropriate drugs administered

3.7. Arrange for supporting equipment effectively.

4. Exposure and closure

4.1. Demonstrate knowledge of optimum skin incision / portal / access

4.2. Achieve an adequate exposure through purposeful dissection in correct tissue planes and identifies all structures correctly

4.3. Complete a sound wound repair where appropriate.

4.4. Protect the wound with dressings, splints and drains where appropriate

5. Intra operative Technique

5.1. Follow an agreed, logical sequence or protocol for the procedure

5.2. Consistently handle tissue well with minimal damage

5.3. Control bleeding promptly by an appropriate method

5.4. Demonstrate a sound technique of knots and sutures/staples.

5.5. Use instruments appropriately and safely

5.6. Proceed at appropriate pace with economy of movement

5.7. Anticipate and respond appropriately to variation e.g. anatomy.

5.8. Deal calmly and effectively with unexpected events/complications

5.9. Uses assistant(s) to the best advantage at all times

5.10. Communicate clearly and consistently with the scrub team

5.11. Communicate clearly and consistently with the anesthetist.

6. Post operative management

7. Procedures

The expected level of competence in every surgical or manual skill will be decided as follows:

Level 1 - to assist senior staff

Level 2 - to perform with supervision

Level 3 - to perform without supervision

D- General and Transferable skills (5%):

1. Recognize the basics of ethics, medico legal aspects of health problems, malpractice and common errors related to knee & shoulder surgery.
2. Communicate with the patients & respond effectively to a patient's emotional and psychosocial concerns.
3. Communicate with other health care providers & appreciate team working.
4. Demonstrate administrative skills to fulfill the paper work needed, read and interpret medical reports.
5. Recognize scientific methodologies, have critical reading abilities and participate in research projects
6. Write scientific article according to the basics of scientific research.
7. Be committed to lifelong learning to ensure that patient safety is maintained and the quality of treatment provided is the best possible.

Course structure:

A-Duration of the program: 12 months

B-Structure of the program:

Total number of the credit points: 90 CPS

- Completion of four curriculum units distributed into four blocks, three months for each block 45 cp
- Microsurgery course attendance, fulfillment ,and achievement of skills and competencies 7 cp
- Basic fracture fixation course attendance fulfillment and achievement of skills and competencies 7 cp
- Attendance of two national/international congresses 7 cp
- Submission of research paper from medical record or hand on training. 12 cp
- Success at the exit exam 12 cp

NB, fulfilling b& c will be achieved by certificate approval of attendance and fulfilling course from any qualified specified surgical unit or center.

Content of the curriculum:

ILO		A	B	C	D	Total
		Knowledge and understanding	**Intellectual skills**	**Professional and practical skills**	**General and transferable skills**	**Total**
		10%	15%	70%	5%	100%
		4.5 C.P.	7 C.P.	31 C.P.	2.5 C.P.	45 C.P.
45 Lectures (1 hours / week)		X	X		X	
90 hr.	6 C.P.					
Scientific Activities			X	X	X	
90 hr.	6 C.P.					
45 OPD (4 hours / week)			X	X	X	
180 hr.	6 C.P.					
Inpatient care			X	X	X	
90 hr.	3 C.P.					
OR (16 hours / week)				X	X	
720 hr.	24 C.P.					

Distribution of the four curriculum blocks:

Lecture	**Covered ILOs**	**Hands on training**	**Covered ILOs**
Module 1 1. Anatomy of the knee 2. Biomechanics of the knee 3. Menisci: anatomy, injuries,	**A 1.2.4.6**	1. Partial menisectomy 2. Meniscal repair: inside out 3. Meniscal repair: all inside 4. Meniscal root	**C 1.2.3.4.5.6**

cysts and anomalies 4. Knee relevant history taking and examination 5. Surgical approaches of the knee 6. Knee arthroscopy principles 7. Menisci: anatomy, injuries, cysts and anomalies 8. ACL tear: background, management concepts 9. PCL tear: background, management concepts 10. MCL tear: background, management concepts 11. LCL tear: background, management concepts **12.** PLC and PMC injuries		transosseus repair 5. Discoid lateral meniscus saucerization and stabilization 6. ACL reconstruction: hamstring autograft 7. ACL reconstruction: BTB graft 8. ACL reconstruction in skeletally immature 9. ACL reconstruction: quadriceps autograft 10. PCL reconstruction 11. PLC reconstruction 12. MCL reconstruction **13.** MLI : reconstruction	
<u>Module 2</u> 1. PLC and PMC injuries 2. Principles of	**A 1.2.3.5**	1. Patellar tendon reconstruction ± repair 2. Quadriceps	**C 1.2.3.4.5.6**

multiple injured knee injuries 3. Knee overuse: patellar tendinitis, quadriceps tendinitis, semimembranosus tendinitis, iliotibial band friction syndrome and prepatellar bursitis. 4. Patellofemoral biomechanics 5. Patellar instability: tilt, subluxation and dislocation. 6. Surgeries principles for patellofemoral instability 7. Quadriceps and patellar tendon rupture: acute and chronic 8. Articular cartilage defects of the knee 9. Osteonecrosis of the knee and OCD (osteochondritis dissicans)		tendon reconstruction ± repair 3. MPFL reconstruction adult 4. MPFL reconstruction in skeletally immature 5. Medial retinacular plication (modified Insall) 6. Distal realignment procedures 7. Trochleoplasty 8. Autogenous osteochondral transfer 9. Microfracture 10. Cell based therapy for chondral defects 11. High tibial osteotomy 12. Arthroscopic synovectomy 13. Arthroscopic plica release	

10. Knee plicae, Osgood Schlattar and Sinding Larsen Johanssen syndrome			
<u>Module 3:</u> 1. Shoulder anatomy 2. Shoulder biomechanics 3. Shoulder relevant history taking and examination 4. Surgical approaches for the shoulder 5. Shoulder arthroscopy principles 6. Shoulder imaging 7. Subacromial and subcoracoid impingement: new insights 8. Acromial and acromioclavicular pathologies and calcific tendinitis 9. Rotator cuff tear	**A 2.3.5.6**	1. Partial thickness rotator cuff repair 2. Full thickness rotator cuff repair 3. Arthroscopic biceps tenodesis 4. Massive rotator cuff repair ± augmentation 5. Superior capsular reconstruction 6. Pectoralis major and latissimus dorsi transfer for irreparable cuff tear 7. Subscapularis cuff repair 8. Bankart repair ± capsular plication ± remplissage 9. Arthroscopic bone block for anterior instability 10. Open Latarjet for glenoid defect	**C 1.2.3.4.5.6**

10. Rotator cuff arthropathy 11. Biceps tendinitis, subluxation and rupture 12. Traumatic anterior shoulder instability 13. Posterior shoulder instability and dislocation		11.SLAP repair	
<u>Module 4:</u> 1. Multidirectional shoulder instability 2. Injuries in throwing athletes: SLAP lesion, internal impingement, GIRD, little Laeguer's shoulder and posterior labral tear 3. Suprascapular neuropathy and quadrilateral space syndrome 4. Scapular winging 5. Thorathic	**A 1.3.6**	1. Suprascapular nerve decompression at suprascapular notch 2. Suprascapular nerve decompression at spinoglenoid notch 3. Pectoralis major tendon repair 4. Primary total knee arthroplasty 5. Revision total knee arthroplasty 6. Primary total	**C 1.2.3.4.5.6**

outlet syndrome 6. Glenohumeral arthritis and AVN head humerus 7. Principles of shoulder arthroplasty 8. Principles of knee arthroplasty 9. Different designs of knee arthroplasty 10. Exercise science		shoulder arthroplasty 7. Reverse shoulder arthroplasty	

I-Theoretical teaching (Lectures): (6 credit points – 1 hrs for each lecture – 1 lecture per week) …. See the table

II-Scientific Activities: Covered ILOs: B1.2.3.4.7.8.9.10

The candidates will cover these points by face to face teaching and self learning activities. The candidates should participate in the scientific activities of the department such as:

- Staff round, Grand round, Seminars, Journal clubs, scientific meetings.
- Workshops.
- Conferences.
- Thesis discussions.

III-Clinical skills:

Outpatient orthopedic department: (Covered ILOs: B 1.2.4.7.9 – C 1.2.3 – D 1.2.3.4.5.6.7)

The candidate participates in the clinical examination of orthopedic outpatient cases under the supervision of senior staff (24 times - 1 outpatient clinic per week -5 hrs each).

- **Inpatient orthopedic department: (Covered ILOs: C 1.2.3 – D 1.2.3.4.5.6.7)** The candidate participates in the inpatient care under the supervision of senior staff.

IV-Operative and practical skills: (Covered ILOs: C 1.2.3.4.5.6)

The candidate participates in the operative lists under the supervision of senior staff (72 times – 3 OR lists per week - 8 hrs each).

- **List of surgical operations: see the table**

- **Levels of participation in surgical operations:**

Level 1 - to assist senior staff

Level 2 - to perform with supervision

Level 3 - to perform without supervision

Operation	Level 1	Level 2	Level 3
SECTION I: Knee			
Partial menisectomy	**30**	**5**	**-**
Meniscal repair: inside out	**15**	**-**	**-**
Meniscal repair: all inside	**15**	**-**	**-**
Meniscal root transosseus repair	**10**	**-**	**-**
Discoid lateral meniscus saucerization and stabilization	**10**	**1**	**-**
Graft harvesting and preparation	**30**	**3**	
AL reconstruction: hamstring autograft	**30**	**-**	**-**
ACL reconstruction: BTB graft	**10**	**-**	**-**
ACL reconstruction in skeletally immature	**5**	**-**	**-**
ACL reconstruction: quadriceps autograft	**10**	**-**	**-**
PCL reconstruction	**20**	**-**	**-**
PLC reconstruction	**20**	**-**	**-**
MCL reconstruction	**10**	**-**	**-**
MLI : reconstruction	**10**	**-**	**-**
Patellar tendon reconstruction ± repair	**10**	**-**	**-**
Quadriceps tendon reconstruction ± repair	**10**	**-**	**-**

MPFL reconstruction adult	**10**	**-**	**-**
MPFL reconstruction in skeletally immature	**5**	**-**	**-**
Medial retinacular plication (modified Insall)	**2**	**-**	**-**
Distal realignment procedures	**5**	**-**	**-**
Trochleoplasty	**5**	**-**	**-**
Autogenous osteochondral transfer	**10**	**-**	**-**
Microfracture	**10**	**4**	**-**
Cell based therapy for chondral defects	**5**	**-**	**-**
High tibial osteotomy	**10**	**-**	**-**
Arthroscopic synovectomy	**10**	**-**	**-**
Arthroscopic plica release	**5**	**1**	**-**
SECTION II: Shoulder			
Diagnostic shoulder arthroscopy	**10**	**2**	
Partial thickness rotator cuff repair	**10**	**-**	**-**
Full thickness rotator cuff repair	**10**	**-**	**-**
Arthroscopic biceps tenodesis	**5**	**-**	**-**
Massive rotator cuff repair ± augmentation	**3**	**-**	**-**
Superior capsular reconstruction	**2**	**-**	**-**
Pectoralis major and latissimus dorsi transfer for irreparable cuff tear	**2**	**-**	**-**
Subscapularis cuff repair	**3**	**-**	**-**
Bankart repair ± capsular plication ± remplissage	**3**	**-**	**-**
Arthroscopic bone block for anterior instability	**3**	**-**	**-**
Open Latarjet for glenoid defect	**3**	**-**	**-**
SLAP repair	**5**	**-**	**-**
Suprascapular nerve decompression at suprascapular notch	**2**	**-**	**-**
Suprascapular nerve decompression at	**2**	**-**	**-**

spinoglenoid notch			
Pectoralis major tendon repair	**3**	-	-
SECTION III: Arthroplasty			
Primary total knee arthroplasty	**10**	-	-
Revision total knee arthroplasty	**5**	-	-
Primary total shoulder arthroplasty	**3**	-	-
Reverse shoulder arthroplasty	**3**	-	-

Teaching Methods:

- Operative room triple per week.
- Staff round once weekly
- Grand round (presentation of interesting cases) once monthly.
- Journal club (presentation of interesting articles) once monthly.
- Scientific meetings arranged by the department.
- Outpatient Department
- Inpatient Department
- Lectures and Activities
- Workshops

Timetable:

- Saturday: Lecture
- Sunday: Grand round - OR
- Monday: OR – Journal club.
- Tuesday: Research day
- Wednesday: OR
- Thursday: OPC – Thesis discussions

Facilities required for teaching and learning:

Data show, Blackboard, Computers, CDs, videos.

List of references:

- Lecture notes will be provided by staff members.
- Essential books:

- Master Technique in knee Surgery
- Operative techniques in knee and shoulder surgery
- AANA Advanced Arthroscopy

- Web sites:
  - Medscape,
  - Cochrane database of systemetic reviews,
  - Pubmed.
  - Orthoteers
  - Orthobulets
- Periodicals:
  - International journal of sports medicine
  - Knee
  - KSSTA

Assessment:

- Assessment criteria:

The prerequisite for succeeding is 75% attendance of each of the lectures, outpatient clinics, and operation lists plus fulfillment of 75% of the credit points specified for each activity, which should be registered in the **log book** given to every candidate on the first day of the course.

- Assessment tools:

A. Continuous assessment is carried throughout the course by **logbook** signature every 3 months for operations, presentations and clinical rounds.

B. Procedure based assessment will be conducted for five core procedures for every candidate using a **procedure based assessment sheet**. The candidate should pass the following four procedures. These operative procedures are:

1. Diagnostic knee arthroscopy
2. Diagnostic shoulder arthroscopy
3. Hamstring graft harvesting and preparation
4. Partial menisectomy.

C. **Final MCQ exam and clinical exam** at the end of the program. Passing mark in the exam is 60% in each exam. If the candidate did not succeed in the exam, he should apply to another exam after 6 months.

NB The candidate will repeat the exit exam again, if he failed in this exam without repetition of training.

Signatures:

Program head and coordintor

Prof. Dr. Abdelrahman Elganainy

Head of Department

Prof. Dr. Akram Hammad