



# FACULTY OF MEDICINE UNIVERSITY OF TRIPOLI

## Clinical skills department University of Tripoli Guidebook

*Tell me and I forget  
Teach me and I learn  
Involve me and I remember.*  
-Benjamin Franklin

## List of contributors

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## **Vision**

For the clinical skill center at University of Tripoli to be the reference in clinical skills teaching at a national and regional level.

## **Mission**

The clinical skill laboratory at University of Tripoli is committed to pursue excellence in training students to acquire clinical skills via simulation.

## **Objectives**

1. To provide the students with a safe environment to practice their clinical skills.
2. To provide the students with structured teaching which is consistent with the curriculum goals.
3. To offer the students an active learning experience in which the student is the focus of the sessions.
4. To train the students in history taking and performing examination as well as dealing with emergency cases.
5. To train the students in performing common clinical procedures.
6. To introduce the students to the basis of clinical ethics.
7. To implement team work discipline.

## **Framework**

Teaching in the clinical skills lab is divided into 2 phases:

1. Preclinical: content and delivery by the clinical skills department.
  - Clinical skills 1 (CS211)
  - Clinical skills 2 (CS321)
  - Clinical skills 3 (CS323)
2. Clinical: content and delivery by the clinical departments as part of their curriculum.
  - Pediatrics
  - Obstetrics and Gynecology
  - Ophthalmology
  - Medicine
  - Surgery

## CLINICAL SKILLS I (CS211)

### BASIC INFORMATION:

<b>Title</b>	<b>Clinical skills I</b>
<b>Code</b>	<b>CS211</b>
<b>Units</b>	<b>1 credit</b>
<b>Duration</b>	<b>14 weeks</b>
<b>Total course hours</b>	<b>14</b>
<b>Prerequisites:</b>	<b>PS142</b>

### OBJECTIVES OF THE COURSE:

1. To be able to perform the basic skills in patients care on a simulator.
2. To obtain the principle involved in each task and its normal and abnormal values.
3. To understand the importance of each skill in the context of clinical setting

### INTENDED LEARNING OUTCOMES:

#### A- KNOWLEDGE AND UNDERSTANDING

- Lists the different routes of parenteral administration.
- Describes the methods of blood extraction.
- Describes the major vital signs and their normal levels.
- Describes the theoretical concepts of ECG.
- Lists the items involved in the process of measuring the patients input-output.
- Describes the steps involved in basic life support.

#### B- INTELLECTUAL SKILLS

- Compares the different methods used in drug administration.
- Differentiates between the types of blood extraction.
- Analyzes the vital signs and interprets their values.
- Analyzes the ECG trace.
- Calculates the input and output of a patient.
- Explains the rationale of basic life support.

#### C- PRACTICAL AND PROFESSIONAL SKILLS

- Gives parenteral drugs to a manikin.
- Extracts blood and inserts cannula on a manikin.
- Examines and assesses the vital signs.
- Inserts urinary catheter on a manikin.
- Inserts nasogastric tube on a manikin.
- Applies ECG leads on a manikin.
- Performs basic life support on a manikin.

#### D- GENERAL AND TRANSFERABLE SKILLS

- Understands the code of medical ethics.
- Knows the basis of sterilization and hygiene during practical sessions.
- Practices self and peer evaluation.

## **COURSE CONTENTS:**

### **1. Parenteral administration**

- 1.1 Subcutaneous injection
- 1.2 Intramuscular injection
- 1.3 Intravenous injection

### **2. Blood extraction**

- 2.1 Venous blood extraction
- 2.2 Arterial blood extraction
- 2.3 Intravenous accesses

### **3. Input-output**

- 3.1 Intravenous fluids
- 3.2 Blood transfusion
- 3.3 Nasogastric tube
- 3.4 Urinary catheter

### **4. Vital signs**

- 4.1 Pulse
- 4.2 Blood pressure measurement
- 4.3 Temperature measurement
- 4.4 Oxygen saturation

### **5. ECG**

- 5.1 ECG lead application
- 5.2 ECG interpretation

### **6. Basic life support**

## **TEACHING AND LEARNING METHODS:**

- Lecture
- Practical
- Discussion

## **ASSESSMENT METHODS:**

- Total: 100 marks
- Attendance and practical exam after each lab: 25%
- Final Practical, OSCE: 50%
- Final written exam: 25%

## **LIST OF REFERENCES:**

- Basic life support, American heart association
- Macleod's clinical examination, 14<sup>th</sup> edition, Elsewhere health sciences 2018

## CLINICAL SKILLS II

### BASIC INFORMATION:

<b>Title</b>	<b>Clinical skills II</b>
<b>Code</b>	<b>CS312</b>
<b>Units</b>	<b>1 credit</b>
<b>Duration</b>	<b>14 weeks</b>
<b>Total course hours</b>	<b>14</b>
<b>Prerequisites:</b>	<b>CS211, PT241</b>

### OBJECTIVES OF THE COURSE:

1. Introducing the student to the basis of clinical history and the fundamentals of clinical examination.
2. The student will acquire practical experience on recording clinical history and will be trained on the physical examination process of both the respiratory and cardiovascular systems.

### INTENDED LEARNING OUTCOMES:

#### A- KNOWLEDGE AND UNDERSTANDING

- Lists the various components of history taking.
- Identifies the concepts of general examination.
- Defines various symptoms of the respiratory and cardiovascular systems.
- Identifies the normal and abnormal clinical findings in respiratory examination.

#### B- INTELLECTUAL SKILLS

- Summarizes the clinical history.
- Analyzes the abnormal clinical findings to reach a diagnosis.
- Distinguishes between the normal and abnormal clinical examination of the respiratory system.
- Distinguishes between the normal and abnormal clinical examination of the cardiovascular system.

#### C- PRACTICAL AND PROFESSIONAL SKILLS

- Takes history from a standardized role player.
- Performs general examination on a manikin.
- Performs clinical examination of the respiratory system on a manikin.
- Performs clinical examination of the cardiovascular system on a manikin.

#### D- GENERAL AND TRANSFERABLE SKILLS

- Understands the code of medical ethics.
- Demonstrates good communication skills.
- Practices self and peer evaluation.

- Engages in a lifelong, self-learning discipline.

## **COURSE CONTENTS:**

### **1. GENERAL HISTORY TAKING**

- 1.1 Taking history
- 1.2 Presenting history

### **2. GENERAL EXAMINATION**

- 2.1 Examination of face and hands
- 2.2 Examination of thyroid and cervical lymph node
- 2.3 Examination of lower limbs

### **3. RESPIRATORY SYSTEM**

- 3.1 Respiratory system history
- 3.2 Respiratory system examination

### **4. CARDIOVASCULAR SYSTEM**

- 4.1 Cardiovascular system history
- 4.2 Cardiovascular system examination

## **TEACHING AND LEARNING METHODS:**

- Lecture
- Practical

## **ASSESSMENT METHODS:**

- Total: 100 marks
- Attendance: 12.5%
- Midterm: 12.5%
- Final written exam: 25%
- Practical, OSCE: 50%

## **LIST OF REFERENCES:**

- Macleod's clinical examination, 14<sup>th</sup> edition, Elsewhere health sciences 2018

## CLINICAL SKILLS III (CS313)

### BASIC INFORMATION:

<b>Title</b>	<b>Clinical skills III</b>
<b>Code</b>	<b>CS313</b>
<b>Units</b>	<b>1 credit</b>
<b>Duration</b>	<b>14 weeks</b>
<b>Total course hours</b>	<b>14</b>
<b>Prerequisites:</b>	<b>CS312, PT342</b>

### OBJECTIVES OF THE COURSE:

1. The student will acquire practical experience on recording clinical history and will be trained on the physical examination process of both the respiratory and cardiovascular systems
2. Introducing the students to the basis of surgical skills including wound management, evaluation of lumps and examination of ulcers.

### INTENDED LEARNING OUTCOMES (ILO):

#### A- KNOWLEDGE AND UNDERSTANDING

- Defines various symptoms of urology, gastrointestinal and nervous systems.
- Identifies the normal and abnormal findings related to urology examination.
- Identifies the normal and abnormal findings related to gastrointestinal examination.
- Identifies the normal and abnormal findings related to nervous system examination
- Describes a lump and an ulcer.
- Lists the steps involved in wound dressing.

#### B- INTELLECTUAL SKILLS

- Summarizes clinical history of urology, gastrointestinal and nervous systems.
- Distinguishes between the normal and abnormal clinical examination of the urology system.
- Distinguishes between the normal and abnormal clinical examination of the gastrointestinal.
- Distinguishes between the normal and abnormal clinical examination of the nervous system.
- Interprets examination of lumps and ulcers.
- Explains the process of wound management.

#### C- PRACTICAL AND PROFESSIONAL SKILLS

- Takes urology, gastrointestinal and nervous system history from a standardized role player
- Performs abdominal and rectal examination on a manikin.
- Performs renal and scrotal examination on a manikin.
- Performs cranial nerves, motor, sensory and coordination examination on peers.



- Examines the breast and axillary lymph nodes on a manikin as an example of lumps.
- Examines a diabetic foot ulcer on a manikin as an example of an ulcer.

#### **D- GENERAL AND TRANSFERABLE SKILLS**

- Understands the code of medical ethics.
- Demonstrates good communication skills.
- Practices self and peer evaluation.
- Engages in a lifelong, self-learning discipline.

#### **COURSE CONTENTS:**

##### **1. THE UROLOGY SYSTEM**

- 1.1 Urology history taking
- 1.2 Examination of the kidneys
- 1.3 Examination of the scrotum

##### **2. THE GASTROINTESTINAL EXAMINATION**

- 2.1 GIT history
- 2.2 Abdominal examination

##### **3. THE CENTRAL NERVOUS SYSTEM**

- 3.1 Examination of cranial nerves
- 3.2 Motor examination
- 3.3 Sensory examination
- 3.4 Proprioception

##### **4. INTRODUCTION TO GENERAL SURGERY**

- 4.1 Examination of lumps
- 4.2 Examination of breast and the axilla
- 4.3 Examination of ulcers
- 4.4 Examination of diabetic foot
- 4.5 Wound dressing

#### **TEACHING AND LEARNING METHODS:**

- Lecture
- Practical

#### **ASSESSMENT METHODS:**

- Total: 100 marks
- Attendance: 12.5%
- Midterm: 12.5%
- Final written exam: 25%
- Practical, OSCE: 50%

#### **LIST OF REFERENCES:**

Macleod's clinical examination 14<sup>th</sup> edition Elsewhere health sciences 2018

**Obstetrics and Gynaecology Skills lab Curriculum**  
**Faculty of Medicine**  
**University of Tripoli**

**BASIC INFORMATION:**

<b>Title</b>	<b>Obstetrics and Gynaecology skills lab</b>
<b>Code</b>	<b>OG480</b>
<b>Hours</b>	<b>12 hrs</b>
<b>Duration</b>	<b>1 Week</b>

**OBJECTIVES OF THE SKILLS LAB COURSE:**

1. To provide good training on lab manikins and ensure patient safety.
2. To be able to conduct normal vaginal delivery on a manikin.
3. To understand the concepts of Partogram and CTG.
4. To receive training on management of the most common obstetric emergencies.

**INTENDED LEARNING OUTCOMES (ILO):**

**A- KNOWLEDGE AND UNDERSTANDING**

- Lists the different aspects of obstetric history taking.
- Describes the steps of obstetric examination.
- Identifies the stages of labour.
- Describes a CTG and Partogram.
- Lists the major obstetric emergencies and their management.
- Describes the steps of vaginal examination.

**B- INTELLECTUAL SKILLS**

- Analyzes antenatal and postnatal history including calculation of gestational age and expected date of delivery.
- Interprets the findings on obstetric examination.
- Interprets the progress of labour.
- Interprets normal and abnormal CTG and Partogram findings.
- Formulates appropriate management plans for patients presenting with emergency disorders.
- Interprets different findings on vaginal examination.

**C- PRACTICAL AND CLINICAL SKILLS**

- Takes history from a standardized role player.
- Performs obstetric examination on a manikin.
- Conducts first, second and third stage of labour on a manikin.
- Draws a Partogram for different case scenarios.
- Simulates first aid measures for different obstetric emergencies.
- Conducts speculum examination and take a vaginal smear and swab on a manikin.

## **D- GENERAL AND TRANSFERABLE SKILLS**

- Respects the lab personnel.
- Takes care of the skills lab and manikins.
- Respects superiors and colleagues.
- Works constructively and cooperatively within a team.
- Practices self and peer evaluation.
- Manages time effectively.
- Leads and motivates colleagues and others.

## **COURSE CONTENTS:**

### **Divided into four parts:-**

#### **I- Obstetric history and examination (one lab)**

1. Obstetric history
2. Obstetric examination

#### **II- Labour (2 labs)**

1. First and second stage
2. Third stage and episiotomy
3. CTG
4. Partogram

#### **III- Emergency**

1. Shoulder dystocia.
2. Postpartum hemorrhage
3. Eclampsia
4. Acute pulmonary embolism

#### **IV-Gynaecology**

1. Taking gynecological history
2. Speculum and biannual examination
3. Taking vaginal swab and cervical smear
4. Insertion and removal of intrauterine contraceptive device

## **TEACHING & LEARNING METHODS**

### **METHODS USED:**

- Demonstration by senior person, teaching staff and demonstrators.
- Training of students on Manikins.

### **TEACHING AND LEARNING FACILITIES:**

Teaching rooms at the faculty for clinical skills with a white board, data show and laboratory room with simulator.

**STUDENT ASSESSMENT:**

Allocated Marks for Skills lab:-

Lab Exam with 3 stations: 10 marks (5%)

**LIST OF REFERENCES:-****I-REFERENCES FOR THE TEACHING STAFF:**

1- Obstetrics by Ten Teachers 20th Edition, Kindle Edition

by Louise C. Kenny (Editor), Jenny E. Myers (Editor) Format: Kindle Edition

2- Clinical laboratory guide for instructors, department book

**II- REFERENCES FOR THE STUDENTS:**

1- Obstetrics by Ten Teachers 20th Edition, Kindle Edition

by Louise C. Kenny (Editor), Jenny E. Myers (Editor) Format: Kindle Edition

**Ophthalmology skills lab Curriculum**  
**Faculty of Medicine**  
**University of Tripoli**

**BASIC INFORMATION:**

<b>Title</b>	<b>Ophthalmology skills lab</b>
<b>Code</b>	<b>OP440</b>
<b>Hours</b>	<b>6 hrs</b>
<b>Duration</b>	<b>1 Week</b>

**OBJECTIVES OF THE COURSE:**

The teaching of ophthalmology is done to medical undergraduates along the following objective:

1. To teach the students the basis of eye examination.
2. The students are taught the use of ophthalmoscope so as to optically scan the media and learn the salient features of the normal eye fundus, and are also able to recognize common gross lesions of the posterior segment of the eye.

**INTENDED LEARNING OUTCOMES (ILO):**

**A- KNOWLEDGE AND UNDERSTANDING**

- Describes the steps in testing visual acuity.
- Lists the methods used in examining the anterior chamber of the eye.
- The use of fundoscopy.

**B- INTELLECTUAL SKILLS**

- Calculates the visual actual.
- Differentiates between normal and abnormal findings in examination of anterior chamber of the eye.
- Differentiates normal from abnormal findings on fundoscopy.

**C- PRACTICAL AND CLINICAL SKILLS**

- Performs visual acuity testing on peers.
- Able to perform examination of anterior chamber of the eye on a manikin.
- Performs fundoscopy examination on a manikin.

**D- GENERAL AND TRANSFERABLE SKILLS**

- Respects superiors, colleagues and any other members of the health profession.
- Practices self and peer evaluation.
- Manages time effectively.

## **COURSE CONTENTS:**

### **Lab 1**

- Visual acuity testing
- Examination of the anterior chamber of the eye
- Normal fundoscopy

### **Lab 2**

- Abnormal findings on fundoscopy

## **TEACHING AND LEARNING FACILITIES**

The sessions are given in a teaching room at the clinical skills center, with teaching aid facilities and manikins.

## **STUDENT ASSESSMENT:**

Allocated Marks:

Within assessment marks of the course

## **LIST OF REFERENCES:**

- Kanski ophthalmology 7<sup>th</sup> edition

**Pediatrics Skills lab Curriculum**  
**Faculty of Medicine**  
**University of Tripoli**

**BASIC INFORMATION:**

<b>Title</b>	<b>Pediatrics skills lab</b>
<b>Code</b>	<b>PD480</b>
<b>Hours</b>	<b>12 hrs</b>
<b>Duration</b>	<b>1 Week</b>

**OBJECTIVES OF THE COURSE:**

1. To provide good training on lab manikins and ensure patient safety.
2. To provide the students with basic knowledge of the normal lung and cardiovascular sounds and to enable them to differentiate between normal and abnormal lung and cardiovascular sounds.
3. To demonstrate respiratory devices to give different treatment modalities on manikins.
4. To provide the students with appropriate knowledge and practical skills to manage common emergencies in neonates, pediatrics and adolescents.
5. To enable students to practice intravenous fluids management.
6. To provide the students with appropriate skills for important ECG findings.
7. To enable students to acquire competencies required for important pediatric procedures.
8. To enable students to interpret important investigations.

**INTENDED LEARNING OUTCOMES (ILO):**

**KNOWLEDGE AND UNDERSTANDING**

- Demonstrates a basic knowledge of safety Issues.
- Describes normal and abnormal lung and cardiovascular sounds.
- Describes respiratory devices to give oxygen and bronchodilators on manikins.
- Defines different ECG leads and identifies normal and abnormal ECG findings.
- Describes interpretation of important investigations.
- Memorizes emergency management for neonate and pediatric life-threatening conditions.
- Lists accredited steps in important pediatric procedures.
- Able to differentiate between different fluid types.

**INTELLECTUAL SKILLS**

- Interprets findings of the clinical examination regarding lung and cardiovascular consultation.
- Interprets important investigations for all pediatric age groups.
- Illustrates steps of respiratory devices use.
- Interprets normal and abnormal ECG findings.
- Differentiates between different clinical conditions.

- Formulates appropriate management plans for patients presenting with critical pediatric disorders.
- Calculates different types of IV fluids correctly.
- Analyzes risk conditions of children and apply emergency actions.

### **PRACTICAL AND CLINICAL SKILLS**

- Uses lab manikins for training then applied on patient in hospital.
- Performs an adequate and complete respiratory and cardiovascular examination on manikins and identifies deviations from normal.
- Identifies normal and common pathologic findings in ECG and blood gases results.
- Simulates first aid measures for different neonatal and pediatric emergencies.
- Conducts oxygen therapy and administration of nebulizer treatment.
- Performs basic life support and cardiopulmonary resuscitation competently on pediatric manikin.
- Inserts a nasogastric tube and cannula in a peripheral vein and practices giving IM injections.
- Illustrates how to collect urine and blood culture.

### **GENERAL AND TRANSFERABLE SKILLS**

- Respects the lab personnel.
- Takes care of the skills lab and manikins.
- Respects superiors and colleagues.
- Works constructively and cooperatively within a team.
- Practices self and peer evaluation.
- Manages time effectively.
- Leads and motivates colleagues and others.

### **COURSE CONTENTS:**

#### **Divided into four parts:-**

#### **I- Respiratory Skills**

1. Auscultation training of lungs.
2. Delivery of medications via nebulizer, metered dose inhaler and oxygen delivery methods.
3. Basic respiratory function tests PFM.

#### **II- Cardiovascular Skills**

1. Auscultation training of heart sounds.
2. Interpreting the 12- leads ECG By using manikin.
3. Scenario SVT.

#### **III- Pediatric Emergency Skills**

1. Newborn resuscitation.
2. Septic Shock.
3. Scenario management of Acute Asthma.
4. Scenario management of status epilepticus.
5. Foreign body aspiration.
6. Advanced Pediatric life support.



#### **IV- Monitoring and Therapeutic Skills**

1. Interpretation of blood gases.
2. Setting up an infusion, use of infusion devices, type of IV fluids and normal fluid and electrolytes requirement.
3. Taking blood cultures and blood sampling.
4. NGT insertion.
5. Intradermal injection.
6. Urine collection samples.
7. Intra-osseous insertion.
8. Lumbar puncture.

#### **TEACHING AND LEARNING METHODS:**

- Demonstration by senior person, teaching staff and demonstrators.
- Training of students on manikins.

#### **TEACHING AND LEARNING FACILITIES:**

Teaching rooms at the faculty for clinical skills, with white boards, data show and laboratory room with simulator.

#### **STUDENT ASSESSMENT**

Allocated Marks for Skills lab:-

Attendance: 3 marks (3%)

Final exam through diagnostic stations: 15 marks (15%)

#### **LIST OF REFERENCES:-**

##### **I- REFERENCES FOR THE TEACHING STAFF: FOR LECTURES AND TUTORIAL**

- 1- Nelson text book of pediatrics . 19 edition ,2011 by Kliegman RM et al ( the new edition 20 ,2015 is available in 2 volumes).
- 2- Pediatric Decision –making Strategies .. 2nd edition, 2016 by Promeranz. A.J etal.
- 3- Practical strategies in pediatric diagnosis and therapy. 2nd edition , 2004 by Kliegman RM etal (available on line) .

##### **II- REFERENCES FOR THE STUDENTS:**

- 1- Nelson Essential Of Pediatrics
- 2- Illustrated Textbook Of Pediatrics
- 3- Core Pediatrics: A problem-Solving Approach.

**Medicine Skills lab Curriculum (General and Special Medicine)**  
**Faculty of Medicine**  
**University of Tripoli**

**BASIC INFORMATION:**

<b>Title</b>	<b>Medical skill lab</b>
<b>Code</b>	<b>MD512</b>
<b>Hours</b>	<b>18 hrs</b>
<b>Duration</b>	<b>1 Week</b>

**OBJECTIVES OF THE COURSE:**

1. To provide good training on lab manikins and ensure patient safety.
2. To provide the students with basic knowledge of the normal lung, abdomen, central nervous system and cardiovascular sounds and to enable them to differentiate between normal and abnormal sounds.
3. To demonstrate respiratory devices to give different treatment modalities on manikins.
4. To provide the students with appropriate knowledge and practical skills to manage common emergencies in adolescent, adult and elderly.
5. To enable students to practice intravenous fluids management.
6. To provide the students with appropriate skills for important ECG & CXR findings.
7. To enable students to acquire competencies required for important medical procedures.
8. To enable to interpret important investigations.

**INTENDED LEARNING OUTCOMES (ILO):**

**A- KNOWLEDGE AND UNDERSTANDING**

- Demonstrates a basic knowledge of safety Issues.
- Describes normal lung, abdomen, central nerve system and cardiovascular sounds and their abnormalities.
- Describes respiratory devices to give oxygen and bronchodilators on manikins.
- Defines different ECG leads and identifies normal and abnormal ECG findings.
- Describes interpretation of important investigations.
- Memorizes emergency management for adult and life-threatening conditions.
- Lists accredited steps in important medical procedures.
- Able to differentiate between different fluid types.
- Identifies normal and abnormal CXR findings.

**B- INTELLECTUAL SKILLS**

- Interprets findings of the clinical examination regarding lung, cardiovascular, abdomen and CNS consultation.
- Interprets important investigations for all medical age groups.
- Illustrates steps of respiratory devices use.
- Interprets normal and abnormal ECG findings.
- Differentiates between different clinical conditions.

- Formulates appropriate management plans for patients presenting with critical medical disorders.
- Calculates different types of IV fluids correctly.
- Analyzes risk conditions of adult and apply emergency actions.
- Interprets normal and abnormal CXR finding.
- Interprets normal and abnormal pulse finding.

### **C- PRACTICAL AND CLINICAL SKILLS**

- Uses lab manikins for training then applied on patient in hospital.
- Performs an adequate, complete respiratory and cardiovascular examination for manikins and identifies deviations from normal.
- Identifies normal and common pathologic findings in ECG, CXR and blood gases results.
- Simulates first aid measures for different medical issues and medical emergencies.
- Conducts oxygen therapy and administration and nebulizer treatment.
- Performs basic life support and cardiopulmonary resuscitation competently on adult manikin.
- Able to insert a nasogastric tube, a cannula in a peripheral vein and practices to give IM injections.
- Illustrates how to collect urine and blood culture.

### **D- GENERAL AND TRANSFERABLE SKILLS**

- Respects the lab personnel.
- Takes care of the skill lab and manikins.
- Respects superiors and colleagues.
- Works constructively and cooperatively within a team.
- Practices self and peer evaluation.
- Manages time effectively.
- Leads and motivates colleagues and others.

### **COURSE CONTENTS:**

#### **Divided into four parts:-**

#### **I- Respiratory Skills**

1. Auscultation training of lungs.
2. Delivery of medications via nebulizer, metered dose inhaler and Oxygen delivery methods.
3. Basic respiratory function tests.

#### **II- Cardiovascular Skills**

1. Auscultation training of heart sounds.
2. Interpreting the 12- leads ECG By using Manikin.
3. Scenario (different types of arrhythmia, MI, CHB,....etc).

#### **III- Abdomen skills**

1. Percussion and palpate for organ (liver, spleen and kidney).
2. Percussion for ascites.
3. Liver function test.

#### **IV- CNS Skills**

1. Examine for motor system (tone, power and reflex)
2. Examine for sensory system (light and pin prick sensation)
3. CT brain finding.

#### **V- Medical Emergency Skills**

1. Adult resuscitation BLS
2. Septic Shock.
3. Scenario management of acute asthma.
4. Scenario management of status epilepticus.
5. Foreign body aspiration.
6. Advanced cardiac life support ACLS.
7. Scenario management of ACLS.
8. Diabetic emergency.

#### **VI- Monitoring and Therapeutic Skills**

1. Interpretation of blood gases
2. Setting up an infusion, use of infusion devices, type of IV fluids and normal fluid and electrolytes requirement.
3. Taking blood cultures and blood sampling.
4. NGT insertion.
5. Intradermal injection.
6. Urine collection samples.
7. Intra-osseous insertion.
8. Lumbar puncture.
9. Pleural aspiration.
10. Ascetic tap.

#### **TEACHING & LEARNING METHODS:**

##### **METHODS USED:**

- Demonstration by senior person, teaching staff and demonstrators.
- Training of students on manikins.

#### **TEACHING AND LEARNING FACILITIES:**

Teaching rooms at the faculty's clinical skills center with white boards, data show and laboratory room with simulator

#### **STUDENT ASSESSMENT**

Allocated Marks for Skills lab:-

Attendance: Necessary for complete training

Final exam through diagnostic stations: 40 marks (13%)

**LIST OF REFERENCES:-**

**REFERENCES FOR THE TEACHING STAFF AND STUDENTS:**

1. Lectures and tutorial.
2. Davidson's-principles & practice of medicine.
3. Oxford handbook of clinical medicine.
4. Kumar & Clark's clinical medicine.

**Surgery Skills lab curriculum (General and Special surgery)**  
**Faculty of Medicine**  
**University of Tripoli**

**BASIC INFORMATION:**

<b>Title</b>	<b>Surgery skills lab</b>
<b>Code</b>	<b>SG 512</b>
<b>Hours</b>	<b>18 hrs</b>
<b>Duration</b>	<b>1 Week</b>

**OBJECTIVES OF THE COURSE:**

1. To perform essential surgical skills in clinical examination and patient care on simulators.
2. To make the students aware of the skills that they can acquire and the limitations of these skills in a simulated environment.
3. To be aware and conscious of the safety issues in patient care even in a simulated environment.
4. To provide students with the skills in assessment and emergency interventions in surgical specialties.
5. Introduce students to devices and instruments used in common surgical interventions especially for emergency conditions and trauma.
6. To practice communication skills in simulated scenarios.

**INTENDED LEARNING OUTCOMES (ILO):**

**A- KNOWLEDGE AND UNDERSTANDING**

- Identifies the role of skills lab in acquiring clinical skills and how to make the best use of it.
- Knows about the prerequisites for patient encounter and examination as in real life, privacy, dignity, presence of an attendant and clean and warm hands.
- Revises and knows the basic anatomy and surface anatomy of bones, joints, abdominal wall, hernias, peripheral vessels, breast, thyroid, lymph nodes, venous system, airway and ear, nose and throat.
- Acquires the knowledge on management of life threatening surgical conditions.
- Knows the types of intravenous fluids and the indication for their use.
- Knows the devices and instruments used in airway management and oxygen therapy.
- Knows the devices and drugs needed and used in CPR.
- Knows blood and blood products, how they are ordered, how to monitor transfusion and recognizes complications.

## **B- INTELLECTUAL SKILLS**

- Identifies the role of skills lab in acquiring clinical skills and how to make the best use of it.
- Knows the prerequisites for patient encounter and examination as in real life, privacy, dignity and presence of an attendant, clean and warm hands.
- Discusses the basic anatomy and surface anatomy of bones, joints, abdominal wall, hernias, peripheral vessels, breast, thyroid, lymph nodes, venous system, airway and ear, nose and throat.
- Formulates management plan of life threatening surgical conditions.
- Discusses the types of intravenous fluids and the indications for their use.
- Differentiates between devices and instruments used in airway management and oxygen therapy.
- Differentiates between devices and drugs needed and used in CPR.
- Discusses blood and blood products and how they are ordered, how to monitor transfusion and recognizes complications.

## **C- PRACTICAL AND CLINICAL SKILLS**

- Demonstrates how to prepare the scene for clinical examination.
- Takes comprehensive and detailed surgical history in a simulated scenario for the common and important surgical conditions.
- Takes a focused history in a simulated scenario.
- Performs thorough general examination.
- Performs examination of abdomen, neck, thyroid, breast, peripheral vascular system, venous system, hernias, scrotum, testis, swellings, ulcers and wounds, fistula and sinuses.
- Demonstrates how to examine bones, joints and the spine.
- Performs assessment and examination of the genitourinary system.
- Performs ear examination using an otoscope.
- Demonstrates how to assess hearing including the use of tuning fork.
- Performs nasal, throat and larynx examination.
- Demonstrates how to assess a case of head injury including Glasgow coma scale.
- Demonstrates the surface anatomy and important landmarks relevant to surgical examination.
- Demonstrates how ABCDE of resuscitation is carried out for multiple injured patients in simulated scenarios.
- Performs airway assessment and management, and how oxygen is delivered.
- Demonstrates how to carry out CPR.
- Performs venipuncture on a manikin and how to collect and label samples.
- Performs intravenous cannulation on a manikin and sets intravenous fluid therapy.
- Performs surgical scrubbing, gloving and gowning.
- Demonstrates how to do emergency decompression of the chest by needle thoracotomy and demonstrates the basis of intercostal tube insertion.
- Demonstrates how diagnostic peritoneal lavage is done.
- Demonstrates how to splint fractures and use a spinal board.
- Inserts nasogastric tube for a manikin.
- Inserts urinary catheter.
- Carries out per rectal examination and demonstrates how to use an anoscope.

## **D- GENERAL AND TRANSFERABLE SKILLS**

- Participates in team work and understands the team dynamics and his role in the team.
- Values the importance of time in clinical practice and learns how to manage time effectively.
- Understands aspects of the evaluation process and practices self-evaluation.
- Learns to respect teachers and colleagues.
- Values the contents of the skills lab and takes care of them.
- Understands the role of simulation and technology in acquiring new skills in clinical practice.

## **COURSE CONTENTS:**

### **(A) Introduction**

- Role of skills lab and simulation in clinical training, scope and limitations.
- Set up of the skills lab, how to make the best use of training in the lab and care of manikins and simulators.

### **(B) History and general examination**

- How to set the scene for history taking and examination.
- History taking scenarios.
- How to take focused history.
- Check lists and evaluation.
- General examination.

### **(C) Examination of lumps, ulcers, wounds, fistulas, sinuses and colostomy**

### **(D) Examination skills of neck and thyroid.**

### **(E) Abdominal examination**

- Position and exposure.
- Surface anatomy and land marks.
- Inspection, palpation, percussion, Auscultation and specific clinical signs.
- Scenarios for different abdominal conditions and findings.
- Per rectal examination and use of Anoscope.
- Hernia examination.

### **(F) Vascular examination**

- Surface anatomy and land marks.
- Examination for inadequacy of blood flow.
- Examination of pulses.
- Examination of venous system.
- Use of Doppler and measurement of ankle brachial index.

### **(G) Genitourinary examination skills**



- Inguinoscrotal examination.
- Examination of testes.
- Examination of prostate.
- Urinary catheterization.

### **(H) Orthopedic examination skills**

- Surface anatomy and land marks.
- Examination of muscles and grading of muscle power.
- Examination of bones.
- Examination of joints.
- Spine examination.
- Use of splints.
- How to use a spinal board.

### **(J) ENT examination**

- Ear examination.
- Use of Otoscope.
- Hearing assessment.
- Examination of nose and use of speculum.
- Examination of throat and indirect laryngoscopy.

### **(K) Neurosurgical examination**

- Head injury assessment.
- Glasgow coma scale.
- Spinal injuries.

### **(L) Emergency care and interventions**

- ABCDE of resuscitation.
- Airway assessment and management, delivery of oxygen and CPR.
- Chest trauma assessment, chest tube insertion and needle thoracostomy pericardiocentesis.
- Intravenous and intraosseous access.
- Blood transfusion.
- Intravenous fluid types and how to set an infusion and calculate rate of transfusion.
- Abdominal trauma and DPL.

### **(N) Therapeutic and diagnostic skills and safety aspects**

- Hand hygiene and scrubbing and use of antiseptics.
- Gowning and gloving.
- Skin disinfection.
- Safe disposal of sharps and contaminated materials.
- Nasogastric tube insertion.
- Use of local anesthesia.
- Wound dressing.
- Collection of samples, blood, urine and swabs for culture.

### **TEACHING AND LEARNING:**

- Demonstration by teachers.
- Hands on training.
- Practicing history taking in a simulated environment.

### **TEACHING AND LEARNING FACILITIES:**

- Data show, white board and flip chart.
- Manikins and other training models
- Skills lab
- Simulated patients.
- Advanced simulators.
- Skeletons.

### **STUDENTS ASSESSMENT**

- Attendance: 5 marks.
- Performance in the skills lab: 15 marks.
- Final clinical examination diagnostic stations: 20 marks.

### **REFERENCES:**

- Browse, introduction to the symptoms and signs of surgical disease.
- Handouts for students on procedural skills and surgical emergencies.