# IMMEDIATE CARDIAC CARE/ADVANCE LIFE SUPPORT CARDIAC (ICC/ALSC)

# ICC/ALSC Curriculum 2025

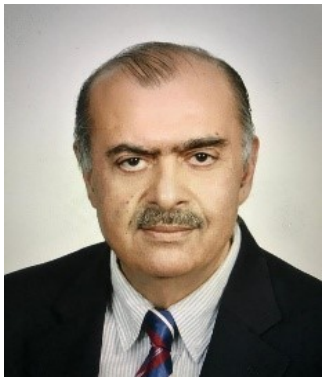
Professional Skill Development Centre
University of Health Sciences Lahore

# IMMEDIATE CARDIAC CARE/ADVANCE LIFE SUPPORT CARDIAC (ICC/ALSC) CURRICULUM 2025

## UNIVERSITY OF HEALTH SCIENCES LAHORE

Contents

# Welcome Messages



**Prof. Ahsan Waheed Rathore**
Vice Chancellor

It gives me great satisfaction to announce that the University Syndicate, in its 82nd meeting held on November 28, 2024, has approved the induction of mandatory training in six essential life support courses for all MBBS, BDS, Nursing, Pharmacy, and Allied Health Sciences students of the University of Health Sciences (UHS), Lahore. This strategic decision reflects our unwavering commitment to producing healthcare professionals who are not only academically competent but also proficient in delivery timely, lifesaving interventions.

The inclusion of these courses ranging from Cardiac First Response to Emergency Obstetrics and Neonatal Care underscores our recognition of the vital role that rapid and effective emergency response plays in healthcare delivery. This training will not only enhance the clinical competence of our graduates but also ensure they are better prepared to meet international standards of emergency care.

I commend the team at the Professional Skills Development Centre for meticulously preparing comprehensive training manuals for both students and instructors. I am confident that this initiative will prove to be a milestone in the transformation of healthcare education in Pakistan.

## Prof. Nadia Naseem

Pro-Vice Chancellor

Healthcare professionals must be prepared to act swiftly and competently in emergency situations, where seconds can mean the difference between life and death. The University of Health Sciences has taken a significant step by mandating certified training in key life support skills for all students across our health sciences disciplines.

These manuals have been developed with careful attention to international standards and local needs, providing both students and trainers with structured, evidence-based guidance. They represent an important shift in our educational philosophy—one that prioritizes not only knowledge but also the ability to translate that knowledge into immediate, practical action.

I extend my appreciation to all those involved in the development of this initiative, and I urge our students and faculty to approach these courses with the seriousness and dedication they demand. Together, we can ensure that every UHS graduate is a confident and capable responder in any medical emergency.

## Prof. Shane Knox

**Director of Paramedics, National Ambulance Service College, Ireland**

The National Ambulance Service College of Ireland has enjoyed a long-standing and productive partnership with the University of Health Sciences (UHS), spanning nearly two decades. Together, we have collaborated on numerous initiatives aimed at strengthening first response, emergency care, and pre-hospital services.

We are now proud to introduce our Cardiac First Response programmed, along with a suite of other life-saving short courses, for integration across the health sciences disciplines at UHS. These evidence-based programmed provide a vital foundation for all healthcare professionals, equipping them with essential skills to deliver effective and timely care.

This new initiative—guided by the leadership of UHS and coordinated through the Professional Development Centre—benefits from the expertise of its distinguished faculty and a robust quality assurance framework, both internal and external. As a result, it offers a world-class educational experience designed to meet the highest standards in healthcare training.

We are confident that these programmers will empower students to deliver exceptional care to the communities they serve. The Irish National Ambulance Service, together with our faculty members from both Pakistan and Ireland, is honored to continue this collaboration with UHS, and we extend our best wishes for the successful delivery and uptake of these programmes.

**Prof. Sarah Ghafoor**
Director Special Initiative/ PSDC

The Professional Skills Development Centre (PSDC) at UHS is proud to lead the implementation of this landmark initiative—mandatory life support training for all students of MBBS, BDS, Nursing, Pharmacy, and Allied Health Sciences programs. These courses have been carefully curated to address critical areas of emergency care, ranging from cardiac and trauma response to neonatal and obstetric emergencies.

Each manual developed under this program is a product of extensive research, peer consultation, and alignment with global best practices. They are designed not only to build core competencies but also to instill confidence and readiness among our future healthcare providers.

This initiative marks a paradigm shift in our clinical training model. It ensures that life-saving skills are not just taught but practiced and mastered. I encourage all trainers and students to engage with these resources with diligence and purpose. The skills you acquire here will empower you to save lives perhaps even on your very first day in the field.

List of Contributors

# LIST OF CONTRIBUTORS

## CURRICULUM STEERING COMMITTEE

| | | |
|---|---|---|
| 1 | **Prof. Dr. Ahsan Waheed Rathore**<br>Vice Chancellor,<br>University of Health Sciences, Lahore | **(Patron)** |
| 2 | **Prof. Dr. Nadia Naseem**<br>Pro-Vice Chancellor,<br>University of Health Sciences, Lahore | **(Patron)** |
| 3 | **Prof. Shane Knox**<br>Director Paramedics,<br>National Ambulance Service College, Ireland | **(Advisor)** |
| 4 | **Prof. Dr. Naila Asad**<br>Professor of Anesthesia<br>Services Institute of Medical Sciences, Lahore | **(Convener)** |
| 5 | **Prof. Dr. Shahid Hameed**<br>Professor of Cardiology<br>Punjab Institute of Cardiology | **(Member)** |
| 6 | **Prof. Dr Tahir Bashir**<br>Professor of Medecine<br>Allama Iqbal Medical College Lahore. | **(Member)** |
| 7 | **Prof. Dr. Farooq Butt**<br>Professor of Surgery<br>Sialkot Medical College ,Sialkot | **(Member)** |
| 8 | **Prof. Dr. Nauman Siddiqui**<br>Director Medical Education<br>Abbotabad International Medical Institute | **(Member)** |
| 9 | **Dr. Mir Abdul Waheed**<br>Director Emergency Medicine<br>Maroof Hosspital, Islamabad | **(Member)** |
| 10 | **Prof. Dr. Sarah Ghafoor**<br>Professor of Oral Biology, UHS | **(Member)** |
| 11 | **Prof. Dr. Asif Naveed**<br>Professor of Hematology /Director Post Graduate studies<br>Univeristy of Health Sciences Lahore. | **(Member)** |
| 12 | **Prof. Sumera Ehsan**<br>Professor of Medical Education,<br>Department of Medical Education- UHS | **(Member)** |
| 13 | **Dr.Wajiha Rizwan**<br>Associate Professor of Peadritics<br>Univeristy of Child Health Sciences Lahore**.** | **(Member)** |
| 14 | **Dr. Farah Rehman**<br>Assistant Professor,<br>Department of Medical Education- UHS | **(Member)** |
| 15 | **Mr.Asif Mehmood**<br>Master Trainer, National Ambulance Service College, Ireland | **(Member)** |
| 16 | **Ms. Tayyaba Zahid**<br>Lecurer English, UHS Lahore | **(Secretary)** |

## Curriculum Outline

**Title:** Immediate Cardiac Care/ Advance Life Support Cardiac (ICC/ALSC)

**Target Audience:** Undergraduate medical, dental nursing and allied health sciences students

**Workshop Duration:** One day from 9 am to 1pm (4 Hours)

## Learning Outcomes of the Course

i. Recognize and manage cardiac arrest and peri-arrest conditions.
ii. Demonstrate high-quality CPR and effective team dynamics.
iii. Apply immediate cardiac care algorithms in simulated cardiac emergency scenarios.
iv. Manage **airways**, use **defibrillators**, and administer medications during high-pressure situations.
v. Function effectively as both team leader and team member during ICC events.

## Learning Objectives

i. Identify signs and rhythms of cardiac arrest, bradycardia, and tachycardia.
ii. Execute ICC interventions, including defibrillation, pacing, and medication administration.
iii. Interpret ECG rhythms relevant to ICC protocols.
iv. Communicate clearly and perform under pressure in a team-based resuscitation scenario.

## Teaching Strategies

i. Didactic lectures (interactive)
ii. Skill stations with hands-on practice
iii. Team-based learning

## Module One: Background and Overview of ICC

**A. Learning Objectives:**

i. Define ICC and its importance in managing cardiac arrest and other cardiovascular
ii. emergencies.
iii. Identify the key components of ICC & understand the ICC algorithm and its application in various clinical scenarios.
iv. Learn about the ICC treatment sequence and decision-making process.
v. Recognize the roles and responsibilities of team members during an ICC response.

**B. Content Focus**

Course overview, roles and importance of ICC

**C. Teaching Strategies:**

Lecture + Discussion

# Module Two: Review of Cardiac First Response/ Basic Life Support

**A. Learning Objectives:**

i. Apply the principles of high-quality CPR in cardiac emergencies

ii. Demonstrate proper chest compression technique.

iii. Provide effective ventilation, including proper bag-mask technique, appropriate ventilation rate.

iv. Recognize cardiac arrest and activate the emergency response system

v. Perform CPR according to CFR guidelines, including, chest compressions, rescue breaths, Use of AEDs.

**B. Content Focus**

Compressions, ventilation, defibrillation

**C. Teaching Strategies:**

Hands-on Skill Station

## 1. High-Quality CPR

**Key Concepts:**

1. **Chest Compression Technique**:
   a) Depth: At least **2 inches** in adults.
   b) Rate: **100-120 compressions per minute**.
   c) Full recoil between compressions.
2. **Effective Ventilation**:
   a) **Bag-mask technique** with appropriate **ventilation rate**.
3. **Minimize Interruptions**:
   a) Aim for **maximum hands-off time of 10 seconds**.
4. **Feedback Devices**:
   a) Use feedback devices to optimize **CPR performance** (depth, rate, and recoil).

**Skills:**

1. **Chest Compression Technique**:
   a) Learn and practice correct compression depth and rate.
2. **Bag-Mask Ventilation**:
   a) Master the use of **bag-mask devices** for effective ventilation.
3. **AED Operation**:
   a) **Proper use** and troubleshooting of **AEDs**.

***Adult Out-of-Hospital Chain of Survival***


***Adult In-Hospital Chain of Survival***


***Pediatric Out-of-Hospital Chain of Survival***


***Pediatric In-Hospital Chain of Survival***


Raina M. Merchant. Circulation. Part 1: Executive Summary: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care, Volume: 142, Issue: 16_suppl_2, Pages: S337-S357, DOI:(10.1161/CIR.0000000000000918)

## Module Three: Primary & Secondary Assessment for Immediate Care Cardiac and History Taking

A. Primary assessment for ICC – **ABCDE Approach**

**Airway**

Open airway: Head-tilt, chin-lift or use OPA/NPA as needed.

If advanced airway (ETT, supraglottic device):

- Confirm placement with equal chest rise and bilateral breath sounds.
- Use capnography ($ETCO_2$) for verification.

**Breathing**

- Provide ventilation with BVM (bag-valve-mask).
- Target $SpO_2$ ≥94% (avoid hyperoxia).
- During CPR, deliver 100% $FiO_2$.

B. **Secondary Assessment**

- Evaluate potential underlying causes of arrest
- Diagnose and treat **reversible conditions** to achieve the Return of Spontaneous Circulation **(ROSC)** and prevent recurrence.

## Module Four: Emergency Conditions (H's and T's)

**Common Causes – H's & T's**

- **H's**: Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hypo-/Hyperkalemia, Hypothermia, Hypoglycemia.
- **T's**: Tension pneumothorax, Cardiac tamponade, Thrombosis (coronary/pulmonary), Toxins, Trauma.

**Key Principle**: *Rapidly identify and reverse the cause.*

**Focused Medical History – SAMPLE**

- **S**: Signs & Symptoms
- **A**: Allergies
- **M**: Medications
- **P**: Past medical history
- **L**: Last oral intake
- **E**: Events leading to current situation

**H's**

a) **Hypovolemia:** A severe loss of blood or fluids, leading to inadequate blood circulation and shock. Treat by administering IV fluids or blood products as appropriate.

b) **Hypoxia**: Lack of oxygen in the blood, which can result from airway obstruction, respiratory issues, or poor ventilation. Ensure adequate oxygenation and ventilation.

c) **Hydrogen Ion (Acidosis):** Excessive acid in the blood (often metabolic acidosis) can impair heart function. This is often corrected with effective ventilation (for respiratory acidosis) or by treating the underlying cause and administering sodium bicarbonate if needed.

d) **Hyperkalemia or Hypokalemia:** Abnormal potassium levels can affect heart rhythm. Hyperkalemia (high potassium) is treated with calcium, insulin, glucose, or sodium bicarbonate, while hypokalemia (low potassium) is corrected by administering potassium.

e) **Hypothermia:** A low body temperature can depress cardiac function. Warming techniques, such as warm blankets, warmed IV fluids, or external warming devices, are used to raise body temperature.

f) **Hypoglycemia:** It is critically low blood glucose level (<70 mg/dL) that deprives the brain and heart of essential fuel, often leading to altered mental status, seizures, or cardiac instability if untreated.

**T's**

a) **Tension Pneumothorax:** Air trapped in the pleural space under pressure can collapse the lung and impair venous return to the heart. Immediate needle decompression or chest tube placement is needed.

b) **Tamponade (Cardiac):** Accumulation of fluid around the heart restricts heart function. Pericardiocentesis (draining the fluid from the pericardial sac) is the treatment.

c) **Thrombosis (Pulmonary or Coronary):** Blood clots in the lungs (pulmonary embolism) or coronary arteries (heart attack) can obstruct blood flow. Treatment may include thrombolytic agents or surgical interventions.

d) **Toxins:** Poisoning or drug overdose (e.g., opioids, tricyclic antidepressants) can depress cardiac function. Treatment depends on the toxin, but may include antidotes, supportive care, and specific reversal agents.

e) **Trauma:** Severe injury (blunt or penetrating) causing hemorrhage, hypoxia, or direct cardiac disruption leading to arrest.

# Module Five: Mega code Simulation (Team Scenarios)

## A. Learning Objectives:

1. Demonstrate **effective teamwork**, communication, and decision-making during **Mega Code Simulation**.
2. Clarify roles and responsibilities during **Mega Code Simulation** and practice **team-based learning**.

**Key Concepts**

1. **Team Dynamics and Communication:**
   a) Demonstrate effective communication and teamwork skills in high-pressure situations and clearly define roles and responsibilities within the team.
   b) Practice closed-loop communication and clear role assignment.
2. **Clinical Decision-Making:**
   a) Apply ICC algorithms and guidelines to complex clinical scenarios.
   b) Make timely and effective decisions in high-stress situations.
   c) Integrate ECG interpretation, patient assessment, and clinical decision-making.
3. **Simulation-Based Learning:**
   a) Apply knowledge and skills in a simulated clinical environment & Receive feedback and debriefing to improve performance.
4. **Team Leadership and Followership:**
   a) Demonstrate leadership skills, including clear communication and decision-making.
5. **Debriefing and Reflection:**
   a) Participate in debriefing sessions to discuss team performance and identify areas for improvement.
   b) Reflect on individual and team performance to identify strengths and weaknesses.

## B. Content Focus

a) **Full ICC Scenarios**: Simulate real-life, advanced cardiac emergencies.
b) **Leadership**: Practice leadership, team communication, and clinical decision-making.
c) **Team Dynamics**: Focus on **team coordination** and role clarity during critical scenarios.

## C. Teaching Strategies

**Hands-on Skill Station**:

a) **Practice** chest compression technique, ventilation, AED operation, and airway management.

**Simulation + Debriefing**:

a) **Practice in Mega Code Simulations** with assigned roles and a focus on **team-based learning**.
b) **Debriefing** to discuss team performance and improve collaboration skills.

**Skills:**

**High-Quality CPR Proficiency**:

a) Demonstrate proficiency in performing high-quality CPR, including defibrillation and medication administration.

**Use of Defibrillators**:

a) Properly use **defibrillators**, cardioversion, and pacing.

### D. Team Dynamics

i) **Member 1: Team Leader**

Directs the resuscitation efforts, makes critical decisions, and ensures team coordination.

ii) **Member 2: Airway Manager**

Manages airway, intubates if necessary, and ensures proper oxygenation and ventilation.

iii) **Member 3: Circulation Manager**

Provides chest compression, manages IV/IO access, and supports circulation.

iv) **Member 4: Defibrillator Operator**

Assess Cardiac Rhythm: Quickly assess the patient's cardiac rhythm using the defibrillator's monitor to determine whether defibrillation (shock) is required.

v) **Member 5: Medication Administrator**

Administers prescribed medications, monitors effects, and ensures timely delivery.

vi) **Member 6: Documentation/Recorder**

Records the timeline of interventions, medications, shocks, and updates for review and analysis.

## Module Six: Rhythms & Protocols in Immediate Care Cardiac

### A. ECG Recognition:

1) Identify and interpret ECG rhythms, including, Normal sinus rhythm, Bradycardia Tachycardia, Ventricular fibrillation (VF), Pulseless ventricular tachycardia (VT), Asystole Pulseless electrical activity (PEA), pulse electric activity (PEA)
2) Recognize ECG signs of myocardial ischemia and infarction.
3) Understand the importance of ECG interpretation in ICC decision-making.

### B. Algorithm Review

1) Understand the ICC algorithms for:
   a) Cardiac arrest (VF/pVT, asystole/PEA), Bradycardia, Tachycardia
2) Apply ICC algorithms to clinical scenarios, including, Recognition of cardiac arrest Initiation of CPR, Defibrillation and cardioversion, Medication administration.
3) Integrate ECG interpretation with ICC/ACLS algorithms and treatment sequence

### C. Content Focus

Bradycardia, tachycardia, PEA, asystole, VT/VF

### D. Teaching Strategies:

Lecture, hand on skill practice

## Module Seven: Airway Management

### A. Learning Objectives:

1. Assess and manage airways in various clinical scenarios using appropriate devices (bag-mask, intubation, etc.).
2. Recognize and respond to **airway obstruction** in emergency situations.
3. Understand the importance of airway management in ICC and emergency care & recognize and respond to airway obstruction.
4. Demonstrate proper technique for oropharyngeal and nasopharyngeal airway insertion & endotracheal tube placement and confirmation.
5. Demonstrate proficiency in advanced airway management techniques.

### B. Content Focus

Airway adjuncts, bag-mask, intubation

### C. Teaching Strategies:

Demonstration + Practice Hands-on Skill Station

**Key Concepts:**

i. **Airway Assessment and Management**:
   a. **Bag-mask ventilation** for initial airway management.
   b. **Endotracheal intubation**: Insertion, confirmation, and securing the airway in unconscious patients.
   c. **Supraglottic airway devices** for airway control when intubation is not possible.

ii. **Airway Obstruction**:
   a. Recognize and address **foreign-body airway obstruction** using appropriate techniques.
   b. Ensure airway patency for proper ventilation.

iii. **Advanced Techniques**:
   a) **Oropharyngeal and nasopharyngeal airway insertion**.
   b) **Endotracheal tube placement** and verification using capnography.

**Skills:**

**Airway Management Techniques**:

a) Proficiency in **bag-mask ventilation** and advanced airway management.
b) Demonstrating the correct technique for inserting **airway adjuncts** (Oropharyngeal and Nasopharyngeal airways).
c) **ETT Placement**

**Content Focus:**

**Airway adjuncts**, **bag-mask**, **intubation**, and techniques for managing **airway obstruction**.

**Teaching Strategies:**

**Demonstration + Practice**:
a) **Hands-on Skill Station** for practicing airway management techniques.
b) **Simulation-based practice** for advanced airway techniques.

### D. Learning Objectives:

6. Assess and manage airways in various clinical scenarios using appropriate devices (bag-mask, intubation, etc.).
7. Recognize and respond to **airway obstruction** in emergency situations.
8. Understand the importance of airway management in ICC and emergency care & recognize and respond to airway obstruction.
9. Demonstrate proper technique for oropharyngeal and nasopharyngeal airway insertion & endotracheal tube placement and confirmation.
10. Demonstrate proficiency in advanced airway management techniques.

### E. Content Focus

Airway adjuncts, bag-mask, intubation

### F. Teaching Strategies:

Demonstration + Practice Hands-on Skill Station

**Key Concepts:**

i. **Airway Assessment and Management**:
   a. **Bag-mask ventilation** for initial airway management.
   b. **Endotracheal intubation**: Insertion, confirmation, and securing the airway in unconscious patients.
   c. **Supraglottic airway devices** for airway control when intubation is not possible.

ii. **Airway Obstruction**:
   a. Recognize and address **foreign-body airway obstruction** using appropriate techniques.
   b. Ensure airway patency for proper ventilation.

iii. **Advanced Techniques**:

   c) **Oropharyngeal and nasopharyngeal airway insertion**.
   d) **Endotracheal tube placement** and verification using capnography.

**Skills:**

**Airway Management Techniques**:

a) Proficiency in **bag-mask ventilation** and advanced airway management.
b) Demonstrating the correct technique for inserting **airway adjuncts** (Oropharyngeal and Nasopharyngeal airways).
c) **ETT Placement**

**Content Focus:**

**Airway adjuncts**, **bag-mask**, **intubation**, and techniques for managing **airway obstruction**.

**Teaching Strategies:**

**Demonstration + Practice**:

**Hands-on Skill Station** for practicing airway management techniques.

**Simulation-based practice** for advanced airway techniques.

# Module Eight: Management of Myocardial Infarction (MI)

### A. Learning Objectives:

1. Understand the **management of Acute Myocardial Infarction (MI)**, including **STEMI protocols**.
2. Apply **rapid interventions** to address reversible causes during **cardiac arrest**.

**Key Concepts:**

1. **Management of Myocardial Infarction (MI)**:
    a. **STEMI Protocol**: Early **aspirin** and **clopidogrel**, thrombolytics or PCI depending on time.
    b. **NSTEMI**: Heparin administration, anti-platelet agents, and urgent coronary angiography.

**Skills:**

**Management of MI**: Using **aspirin**, **clopidogrel**, and **PCI**.

### B. Content Focus:

**STEMI** and **NSTEMI management**.

### C. Teaching Strategies:

i. **Interactive Lecture + Discussion** for emergency conditions.
ii. **Hands-on Skill Stations for practice**
iii. **Case-based Scenarios** for **MI management** and **coronary interventions**.

## Module Nine: Post-Resuscitation Care

### A. Learning Objectives:

- Recognize the importance of **post-cardiac arrest care** in reducing morbidity and mortality.
- Apply interventions such as **oxygen therapy**, **temperature management**, and **patient monitoring** in post-resuscitation care.
- Understand the role of the ICC team in transitioning from emergency response to recovery phase.

**Key Concepts:**

1. **Oxygen Therapy**: Maintain oxygen saturation between **94-98%** to ensure adequate tissue perfusion.
2. **Patient Monitoring**: Continuous monitoring of **ECG**, **blood pressure**, **blood glucose**, and **vital signs**.
3. **Temperature Management**:
    a. **Active cooling** with cold saline IV fluids (NaCl 500 mL at 4°C) or cold packs.
    b. Target **normothermia** or **mild hypothermia** (32–34°C) for **neuroprotection**.
4. **Medication**: Address hypotension with **NaCl IV/IO** and manage symptomatic **bradycardia** with **atropine**.
5. **Neurological Protection**:
    a. Focus on minimizing **cerebral ischemia** post-cardiac arrest.
    b. Early **neurological assessment** for potential brain injury.

**Skills:**

- **Administering Oxygen** and **fluids post-resuscitation**.
- **Continuous Monitoring** of vital signs and adjusting interventions accordingly.
- **Temperature Management**: Administer **cold saline** for active cooling.

### B. Content Focus:

- **Transitioning from resuscitation to recovery**.
- **Medication** and **therapeutic strategies** for post-resuscitation care.

### C. Teaching Strategies:

- **Case-based Discussion**: Focus on real-life post-resuscitation care scenarios.
- **Hands-on Skill Station**: For practicing **oxygen therapy**, **fluid administration**, and **temperature management**.
- **Simulation-based Learning**: Practice post-resuscitation care interventions in a controlled environment.

## Module Ten: Evaluation

**I. Question & Answer Session:**

1) Clarify any doubts or questions regarding the course material & discuss complex topics and challenging scenarios.
2) Encourage active participation and engagement.

**II. Post-Test:**

1) Assess knowledge retention and understanding of the course material.
2) Evaluate the effectiveness of the training program.
3) Identify areas for further improvement or review.

**III. Wrap-Up Session:**

1) Summarize key takeaways and main points from the course & provide final thoughts and recommendations.
2) Encourage continued learning and application of skills

**A. Content Focus**

Feeback

**B. Teaching Strategies:**

Discussion + Post Test

## Assessment Policy

The passing marks will be 70% for post-test and skills station for the students. Students from 60% -69% will be given a chance to reappear for post-test and skill test on the same day. Less than 60% will reappear with next batch. Assessment will be conducted as follows

a) Formative: Direct observation with feedback during skill session
b) Summative: Skill test (OSCE)
c) Written MCQs- based Post test (10-20)

## Course Feedback

**Objectives:**

i. To examine the areas for improvement based on comments of practice.
ii. To provide the participants with time to comment and seek clarity.
iii. To share the overall performance report with the participants.

## Quality Assurance

Quality assurance of all training will be maintained through regular feedback, instructor workshops and on-site evaluation of the training.

## Instructor Certification

i. UHS-PSDC trained Instrcutors having completed the provider course training and may have provided training as a co-instructor for at least 3 courses under supervision of a trained master trainer/ instructor
ii. Those with clinical experience in emergency or critical care settings. Familiarity with adult education and skills training and an ability to provide constructive feedback will be of an added advantage

## Integration & Sustainability

i. Embed into existing skills lab or clinical rotation schedule
ii. Repeat 2-yearly for reinforcement
iii. Encourage observational learning during actual ICC calls in any emergency

## Recommended Guidelines and References

i. Pre Hospital Emergency Care Council- Clinical Practice Guidelines-2021 Edition Updated 2023
ii. Pre Hospital Emergency Care Council- Cardiac First Respond-Student handbook-2011 Edition
iii. American Heart Association (AHA) BLS Guidelines 2020
iv. European Resuscitation Council (ERC) Guidelines 2021
v. WHO Emergency Care Toolkit

## Session Plan

One day workshop (9:00am-1:00pm)

| Time | Activity |
|---|---|
| 9:00am- 9:10am | Welcome, Registration, Introductory remarks |
| 9:10am-9:25am | Module One: Background and Overview of ICC |
| 9:25am-9:45am | Module Two: Review of Cardiac First Response/ Basic Life Support |
| 9:45am- 10:15am | Module Three: Primary and Secondary Assessment for ICC & History Taking |
| 10:15 – 10:45am | Module Four: Emergency Conditions (H's and T's) |
| 10:45am-11:05 am | Module Five: Rhythms and Protocols in ICC |
| 11:05am-11:20am | Module Six-Airway Management |
| 11:20am-11:40am | Module Seven- Pharmacology and Drug Protocol |
| 11:40am-12:00pm | Module Eight- Management of Myocardial Infarction |
| 12:00pm-12:20pm | Module Nine: Post Resuscitation Crae |
| 12:20pm-12:40pm | Module Ten: Mega code Simulation (Team Scenarios) |
| 12:40pm-1:00pm | Module Eleven: Evaluation |

Professional Skill Development Centre
University of Health Sciences Lahore