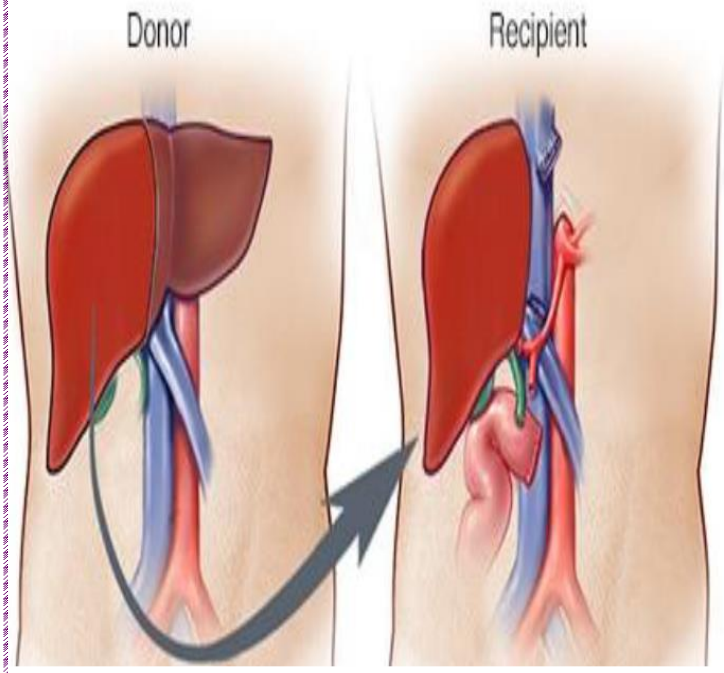
Professional Diploma in Hepato-Pancreatico-Biliary Anesthesia and Intensive care Portfolio



" ملف الإنجاز "

اللازم لحصول المتدرب على دبلومة مهنية في التخدير والعناية المركزة الجراحية لحالات الكبد والبنكرياس والجهاز المراري

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Contents

Personal photo

Name…….
Date of birth……..
Address……..
Place of work……
Telephones………**Mobile phone(s)**……..
E mail……

Name of hospital	Period of work	**Hospital director signature**

Academic Information

MBBCh……/……/…… University …….. Grade ….……
MSc…….. University…….. Grade ….……
MD degree …… University ……
Others……/……/…… University ……

Portfolio Appraisal: Documentation of experiences & reflection

Summary

This Portfolio will be used for appraisal and review of:

- Your **progress on the course.**
- Your **attitudes and behavior.**
- It facilitates self-evaluation and review of your professional development which is necessary for a career in medicine.
- It is part of the professional practice of all doctors to keep a portfolio recording their experience and to engage in appraisal.

Overall Goals

Your portfolio should help you:

- Monitor your progress in relation to course objectives.
- Reflects systematically on your progress and development.
- Set future personal development targets.
- Prepare you for the appraisal process.

**** Aim of the activities book***

To provide one source of evidence for the assessment committee that you attained the desired level of competency required to gain the award.

In this book you will document all clinical, academic and other experiences and skills you attained during your training.

Sections of the book
For each module / course / rotation

You should fill the following sections: -

1- Clinical case log

1- You will first find a list with all required cases in the concerned module and the minimum number of cases you must get exposed to and level of participation you should achieve for each type of cases.

2- You should record all clinical cases in the module and each case should be signed by your trainer.

2- Clinical case presentation log

Record the cases related to the module that you have presented in a seminar of the activity.

3- Procedures / operations log

1- You will find a list of required procedures, diagnostic – therapeutic operations and level of desired performance you should achieve at the end of training.

2- You will find empty tables to write down the procedure, your level of participation and date and signature of supervisor.

4- Rotation / attendance proof

You should have evidence of achievement of the required training hours within each module.

For the whole program fill the following sections

1- Academic activities

A- Document all academic activities, e.g. lecture, journal clubs, workshops, conference, services attended. This documentation should include the level of participation "attendance, preparation, presentation,"

2- Academic achievements

A- Document all outcomes you achieved.

The program aims

1-1- To enable candidates to acquire satisfactory level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care and enabling the candidates of making appropriate referrals to a sub-specialist.
1-2- Provide candidates with fundamental knowledge and skills of dealing with critically ill patients, with Hepato-pancreatico-biliary and Liver Transplant anesthesia and Intensive care fundamentals.
1-3- To introduce candidates to the basics of scientific medical research.
1-4- Enable candidates to start professional careers as specialists in Egypt but recognized abroad.
1-5- To enable candidates to understand and get the best of published scientific research and do their own.

Curriculum Structure:

Duration of program 2 years

Program Structure

Program Time Table

1- **Duration of program 2 years divided into:**
   - **1st Semester: (6 month).**
     - Program-related basic science modules and ILOs+ elective Module.
     - Students are allowed to sit the exams of these modules at the end of the semester.
   - **2nd Semester: (6 month)**
     - Program-related Speciality Related Anesthesia Sciences.
     - Students are allowed to sit the exams of these modules at the end of the semester.
   - **3rd and 4th Semesters: (1 year).**
     - Program –related speciality modules and ILOs (Anesthetic and Intensive Care Management of HPB Surgeries, and Anesthetic and Intensive Care Management of Liver Transplant Surgeries.
     - Students are allowed to sit the exams of these modules at the end each semester.

Graduations and exams

The students pass if they get 50% from the written exams and 60% from oral and clinical/practical exams of each module and 60% of summation of the written exams, oral and clinical/practical exams of each module.

Curriculum Structure (modules):

Code No.	Module Title	CP	Student Workload					
			Lecture	Practical	Homework/ Assignment	Test Preparation	Other Private study #	Total Hours
First semester (30 ECTS)								
Track 1: Basic Sciences (10 modules)								
1	Anatomy	6	40	-	-	140	-	180
2	Physiology	4	40	-	-	80	-	120
3	Microbiology	3	30	-	-	60	-	90
4	Pharmacology	5	50	-	-	100	-	150
5	Clinical Pathology and Laboratory Testing	2	20	-	-	40	-	60
6	Basic Nutrition	2	24	10	-	22	4	60
7	Basic and Advanced Infection Control in hepatic patient	2	20	10	-	20	10	60
8	Statistics and Research methodology	2	14	20	6	20	-	60
9	Evidence based Medicine	1	6	9	3	9	3	30
10	Information Technology	1	2	22	6		-	30
Track2: Elective modules (1 module)								
10	Elective module	2	Student Workload differ according module type				-	60
Second semester (30 ECTS)								
Track: Specialty Related Anesthesia Sciences (4 modules)								
1	Patient monitoring	10	60	180	-	60	-	300
2	Perioperative Emergencies	8	30	120	-	70	20	240
3	Anesthetic Management of HPB Surgeries Part 1	10	40	180	-	80	-	300
4	Preanesthetic Evaluation	2	10	30	-	20	-	60
Third semester (30 ECTS)								
Track: Anesthetic and Intensive Care Management of HPB Surgeries (3 modules)								
1	Liver Related Medical Sciences	5	30	60	-	60	-	150
2	Anesthetic Management of HPB Surgeries Part 2	10	40	180	-	80	-	300
3	Intensive Care Patient Management	15	60	240	30	120	-	450
Fourth semester (30 ECTS)								
Track: Anesthetic and Intensive Care Management of Liver Transplant Surgeries (3 modules)								
1	Transplantation Related Medical Sciences	5	40	-	10	80	20	150
2	Anesthetic Management of Liver Transplant Surgeries	10	40	180	-	80	-	300
3	Liver Transplant Intensive Care	15	60	240	30	120	-	450

Weighting of assessments:

Modules		Degrees			
	Module code	Written Exam	Degree		Total
			Oral Exam*	Practical / Clinical Exam	
First Semester					
1. Anatomy	HBA401	70	50	-	120
2. Physiology	HBA403	50	30	-	80
3. Microbiology	HBA407	40	20	-	60
4. Pharmacology	HBA406	60	40	-	100
5. Clinical Pathology and Laboratory Testing	HBA431	25	15	-	40
6. Basic Nutrition	HBA409A	25	15		40
7. **Basic and Advanced Module of Infection Control in hepatic patient**	IPU400B	25	-	15 (case study)	40
8. Statistics and Research methodology	HBA429A#§	30	-	10	40
9. Evidence Based Medicine*	EDC400A	10 Assignment	-	10	20
10. Information Technology	HBA429B§	-	-	20	20
11. Elective modules - Hospital Administration /OR - Medical Ethics		Distribution of the degree according to module type			40
Second Semester					
1. Patient monitoring	HBA429B	120	60	20	200
2. Perioperative Emergences	HBA429C	90	50	20	160
3. Anesthetic Management of HPB Surgeries Part 1	HBA429D	120	80		200
4. Preanesthetic Evaluation	HBA429E	20	20	-	40
Third Semester					
1. Liver Related Medical Sciences	HBA429F	60	40		100
2. Anesthetic Management of HPB Surgeries Part 2	HBA429G	120	80		200
3. Intensive Care Patient Management	HBA429H	180	120		300
Fourth Semester					
1. Transplantation Related Medical Sciences	HBA429I	60	40	-	100
2. Anesthetic Management of Liver Transplant Surgeries	HBA429J	120	50	30	200
3. Liver Transplant Intensive Care	HBA429K	180	80	40	300
Total					2400

* 25% of the oral exam for assessment of Portfolio.

First semester Modules

Basic Science Track

1. **Anatomy.**
2. **Physiology.**
3. **Microbiology.**
4. **Pharmacology.**
5. **Clinical Pathology and Laboratory Testing.**
6. **Basic Nutrition**
7. **Basic and Advanced Infection Control in hepatic patient**
8. **Statistics and Research methodology**
9. **Evidence based Medicine**
10. **Information Technology**

Elective Modules Track

One of the following

1. **Medical Ethics**
2. **Hospital Administration**

Anatomy Module (I-1)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
6 CP	40 hours	-	-	140 H	-	180 H
Percentage%	22.2%	-		77.8%		100 %

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Anatomy	1.3	Anatomy Department in conjunction with diploma coordinator	40 hours - Liver anatomy. - Anatomy of Pancreatico-biliary system - Splanchnic Circulation	22.2%
Student signature			Principle coordinator signature	Program Academic Director signature

Anatomy (Lectures)

Date	Attendance	Topic	Signature

Physiology Module (I-2)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
5 CP	40 hours	-	-	80 hours	-	120 H
Percentage %	33.3 %	-	-	66.7 %	-	100 %

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Physiology	1.7	Physiology Department in conjunction with Diploma coordinators.	40 hours - Portal circulation - Liver function with details of role of liver in metabolism - Bile synthesis, secretion and its function - Secretory function of pancreas - Control in pancreatic secretion and bile flow - Coagulation system.	33.3%
Student signature			Principle coordinator signature	Program Academic Director signature

Physiology (Lectures)

Date	Attendance	Topic	Signature

Microbiology Module (I-3)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
3 CP	30 H	-		60 H	-	90 H
Percentage%	33.3%	-		66.7%	-	100

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Microbiology	1	- Microbiology and Immunology in conjunction with Diploma coordinators.	30 hours - - Principles of immune response - Basic of humoral and cellular immune response	33.3%
Student signature			Principle coordinator Signature	Program Academic Director signature

Microbiology (Lectures)

Date	Attendance	Topic	Signature

Pharmacology Module (I-4)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
5 CP	50	-	-	100	-	150 H
Percentage%	33.3%	-	-	66.7%	-	100 %

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Pharmacology	1.6	- Pharmacology in conjunction with Diploma coordinators.	50 hours - Mechanism of drug resistance and indications of chemoprophylaxis - Drugs used in portal hypertension - Antiviral agents - Antibacterial agents - Antifungal agents - Immunosuppression – basics and commonly used drugs – doses, monitoring and adverse effects - Commonly used drugs in patients with end stage liver disease.	33.3%
Student signature			Principle coordinator Signature	Program Academic Director signature

Phamacology (Lectures)

Date	Attendance	Topic	Signature

Clinical Pathology and Lab testing Module (I-5)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
2 CP	20 H	-	-	40 H	-	60 H
Percentage%	33.3%	-	-	66.7%	-	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Pathology & Laboratory testing	0.7	Clinical Pathology Department in conjunction with diploma coordinator	20 hours - Interpretation of liver function tests; Normal Markers of cholestasis and cholangitis, Synthetic function (INR, clotting factors, albumin, bilirubin). - Coagulation studies - Sepsis biomarkers	33.3%
Student signature			Principle coordinator signature	Program Academic Director signature

Clinical Pathology and Lab testing Module (Lectures)

Date	Attendance	Topic	Signature

Basic Nutrition Module (I-6)

Credit Points	Hours for student Workload/Semester				
	Lecture	Practical/ Clinical	Test Preparation	Journal Club (Critical Appraisal of scientific articles related to nutrition)	Total Hours
2 CP	24 hours (12 lectures)	10 hours	22 hours	4 hours	60 hours
Percentage %	40 %	16.7%	36.7%	6.6%	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Basic nutrition	0.8	- Staff members of Public Health and Community Medicine Department in conjunction with Anesthesia and Surgical Intensive Care	24 hours (12 lectures) - Effect of chronic liver diseases on nutritional status and metabolism - Assessment of nutritional status in hepatic patients - Applying knowledge to calculate nutrients' requirements for hepatic patients - Nutritional therapy in NAFLD/NASH - Nutrition in acute liver disease - Nutritional guidelines in liver injuries - Nutrition in compensated liver cirrhosis and End-Stage Liver Disease. - Applied nutrition in patients with pancreatitis (both acute and chronic) - Nutrition in Gallbladder Diseases (stone & Cholestasis) - Nutritional needs and interpretation in surgical patients (perioperative and postoperative) in hepato-biliary system - Role of parenteral nutrition in hepatic patients	40 %
	0.33		10 hours -Obtain proper history and examine patients in caring and respectful behaviors. - Apply practical skills in the assessment of nutritional status of patients with hepatic-biliary pancreatic diseases. - Apply evidence-based knowledge to calculate total energy requirements of hepatic patients based on their physiological & nutritional states. - Apply different nutrition protocols for short- and long-term nutrition management of different hepatic-biliary pancreatic diseases.	16.7%
	0.13		4 hours (Journal club)	6.6%
Student signature			Principle coordinator signature	Program Academic Director signature

Basic nutrition (Lectures)

Date	Attendance	Topic	Signature

Practical

Date	*Level of competency	Topic	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Journal club log (Critical Appraisal of scientific articles related to nutrition)

Date	Your Role*	Topic	Signature

** Your role: -
A- Attendance
B- Organization
C- Presentation

Basic and Advanced Infection Control in Hepatic Patients (1-7)

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Workshop, Audit, Project and or presentation)	Total Hours
2 CP	20 H	-	10 H	20 H	10 H	60 H
Percentage	33.3 %	(0 %)	16.7%	33.3 %	16.7 %	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Basic and Advanced Infection Control in Hepatic Patients	0. 7	- Infection Control Unit	10 H Lectures - Basic of Infection Control. Attendance and effectiveness - Bundles Prevention. - Control Infection In Liver Transplantation Unit. -Basic Content of Infection Control Module With illustration of Cores. - Care VAP Bundle Catheter associated Urinary tract infections. - SSI bundle. - Solid Organ Transplant.	33.3 %
	0.3		10 hours - Private study (Workshop, Audit, Project and or presentation)	16.7 %
	0.3		10 hours Homework	16.7 %
Student signature			Principle coordinator signature	Program Academic Director signature

Basic and Advanced Infection Control in Hepatic Patients (Lectures)

Date	Attendance	Topic	Signature

Workshop, Audit, Project and or presentation

Date	Role**	Topic	Signature

** Your role:-
A- Attendance
B- Organization
C- Presentation

Homework

Date	Topic	Signature

Statistics and Research Methodology (I-8)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical / Clinical	Homework	Test Preparation	Other Private study	Total Hours
1 CP	14 hours (7 lectures)	20 hours	6 H	20 H	-	60 H
Percentage %	23.3%	33.3%	10%	33.3%		100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Statistics and Research Methodology	0. 25	Community Medicine Department& Statistic and Insurance Department	14 hours (7 lectures) - Basic statistical definitions in medicine - Define statistical population – samples. - A brief introduction to SPSS - List types of random samples. - Define and list types of variables. - Describe measurements levels. - Recognize types of research questions. - Univariate Statistical methods - Multivariate statistical Methods for Associational research questions	23.3%
	0.3		20 hours Practical - Use statistical package to manipulate and analyze medical data. - Use sampling software to calculate and select the appropriate sample size. - Apply the scientific approach to select the appropriate statistical method.	33.3%
	0.1		6 hours Homework	10%
Student signature			Principle coordinator signature	Program Academic Director signature

Statistics and Research Methodology (Lectures)

Date	Attendance	Topic	Signature

Practical

Date	* Level of competency	Topic	Signature

Homework

Date	Topic	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Evidence based medicine (I-9)

Credit Points	Hours for student Workload/Semester				
	Lecture	Practical/ Clinical	Test Preparation	Journal club Assignment	Total Hours
1CP	6 hours (6 lectures)	9 hours	9 hours	6 hours	30 hours
Percentage %	20 %	30	30%	20%	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Evidence based medicine	0.2	- Education development center	6 hours (6 lectures) - Introduction to Evidence-based Medicine. -Posing questions and running searches in PubMed. - How to search the clinical evidence - How to appraise evidence about interventions - How to appraise evidence on harm - How to appraise evidence about diagnostic tests - How to assess evidence from systematic reviews	20 %
	0.3		9 hours (Practical) - Formulate clinical questions and make them answerable. in a scientific way. - Search for and select relevant literature for scrutinizing and critical appraisal. - Evaluate simple numerical results. - Apply relevant clinical evidence in clinical practice.	30%
	0.2		6 hours – Journal club	20%
Student signature			Principle coordinator signature	Program Academic Director signature

Evidence based medicine (Lectures)

Date	Attendance	Topic	Signature

Practical

Date	*Level of competency	Topic	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Journal club log (Critical Appraisal of scientific articles related to evidence bases medicine)

Date	Your Role*	Topic	Signature

** Your role: -
A- Attendance
B- Organization
C- Presentation

Information Technology [1-10]

Credit Points	Hours for student Workload/Semester					
	Tutorial	Practical	Homework	Test Preparation	Other Private study	Total Hours
1 CP	2 hours (Tutorial)	22 hours	6 H	-	-	30 H
Percentage%	6.7%	73.3%	20%	0%	0%	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Information Technology	0. 1	Electrical Engineering Department in conjunction with Diploma coordinators.	- Computer essentials - Online essentials - Word processing - Spreadsheets - Presentation - Citation management tools (mendeley or endnote) - It security - Hospital information system (his)	6.7%
	0.7		- Identify and protect from common security challenges, and operate safely when online -Use the essential concepts and skills relating to web browsing, effective information search, online communication, e-mail and accessing the medical databases. - Apply practical skills in Using the advanced features of word processing applications to enhance work, improve productivity and save time. -Use a spreadsheet application, perform tasks associated with developing, formatting, modifying and using a spreadsheet, using standard formulas and functions, and competently create and format graphs or charts. -Handle a list of references or citations quite easily and effectively and thereby save on time. - Use Hospital information system (HIS) to allow health care providers to do their jobs effectively.	73.3%
	0.2		6 hour (Homework)	20%
Student signature			Principle coordinator signature	Program Academic Director signature

Information Technology

Date	Attendance	Topic	Signature

Practical

Date	* Level of competency	Topic	Signature

Homework

Date	Topic	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Elective Track

- The student chooses one of these courses

1. Hospital Administration
2. Medical Ethics

Name of the elective course: ----------

Elective Course Lectures

Date	Attendance	Topic	Signature

Elective Course Practical skills

Date	Attendance	Activity	Signature

Second Semester Modules

Specialty Related Anesthesia Sciences

1. Monitoring
2. Perioperative Emergences
3. Anesthetic Management of HPB Surgeries Part 1
4. Preanesthetic Evaluation

Patient monitoring (II-1)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
10 CP	60 hours (20 lectures)	180 hours (30 days)	-	60 H	-	300 H
Percentage%	20%	60%		20 %	-	100

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Patient monitoring	2	- Anesthesia and Intensive Care Department.	60 hours (20 lectures) - Hemodynamic monitoring – Invasive and Non-invasive hemodynamic monitoring. - Arterial line placement (radial and femoral) -Central venous catheterization (femoral, internal jugular and subclavian veins) –Ultrasound guided vascular access - Right heart catheterization (pulmonary artery catheter placement(Transesophageal Echocardiography (TEE) -Arterial blood gas analysis and interpretation -Coagulation monitoring including Thromboelastogram (TEG), ROTEM and Sonoclot - Cardiac output monitoring – PiCCO, TOE, Swan-Ganz - Intracranial pressure monitoring	20%
	6		Clinical 180 hours (30 days)	60%
Student signature			Principle coordinator signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

Rotation and attendance in Units

Date From ---- to----	Unit	Duration	Signature of supervisor

Procedures log book

Interpret (C):	Number
- Transesophageal Echocardiography (TEE) - Arterial blood gas. - Coagulation monitoring, including Thromboelastogram (TEG), ROTEM and Sonoclot. - Cardiac output monitoring – PiCCO, TOE, Swan-Ganz. - Intracranial pressure monitoring	(5 cases) (20 cases) (10 cases) (5 cases) (5 cases)
Perform under supervision (B):	Number
- Application of urinary catheter. - Cannulation including Central venous line. - Arterial Cannulation.	(10cases) (10 cases) (10 cases)
Independently Perform (A)	Number
- Application of urinary catheter. - Cannulation including Central venous line. - Arterial Cannulation.	(10cases) (10 cases) (10 cases)

Procedure logs

Date	Diagnosis of case	Procedure	Level of competency *	Location	Signature of supervisor

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed / Interpret

Procedure logs

Date	Diagnosis of case	Procedure	Level of competency *	Location	Signature of supervisor

* Level of competency
A- Independent performance
B- Performance supervision
C- Observed / Interpret

Procedure logs

Date	Diagnosis of case	Procedure	Level of competency *	Location	Signature of supervisor

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed / Interpret

Perioperative Emergencies Module (II-2)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (ACLS Module)	Total Hours
8 CP	30 H	120 H (20 days)	-	70 H	20 H	240 H
Percentage%	12.5%	50%	-	29.2%	8.3%	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Perioperative Emergencies	1	Anesthesia department	30 H – Transfusion medicine – Shock states; Cardiopulmonary resuscitation – Cardiac emergencies and their management – Advanced cardiac life support – Management of the difficult airway	12.5%
	1.6		20 H Other Private study (ACLS Module)	20%
	4		Clinical 120 H (20 days)	50%
Student signature			Principle coordinator signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

(Lectures)

Date	Attendance	Topic	Signature

Procedures logbook

Observe / interpret (C):	Number
• The need for, type, volume, and response to a fluid bolus in an acutely unwell patient. • Basic life support (effective chest compressions, airway manoeuvres, bag and mask ventilation). • Advanced life support: IV drugs; safe DC shocks when indicated; central line insertion, external pacing, endotracheal drug administration, identification and rectification of reversible causes of cardiac arrest • Interpret - Cervical spine, chest radiographs - Head CT and MRI showing clear abnormalities relevant to the airway	(5 cases) (5 cases) (20 cases) (5 cases) (5 cases)
Perform under supervision (B):	Number
• Basic life support (effective chest compressions, airway manoeuvres, bag and mask ventilation). • Advanced life support: IV drugs; safe DC shocks when indicated; central line insertion, external pacing, endotracheal drug administration, identification and rectification of reversible causes of cardiac arrest • Display: • Correct use of the mask, head position and clear explanation to the patient . • Optimal patient position for airway management, including head tilt, chin lift, jaw thrust • Managing airway with mask and oral/nasopharyngeal airways • Hand ventilation with bag and mask [including self-inflating bag] • Ability to insert and confirmation of placement of a Laryngeal Mask Airway • Correct head positioning, direct laryngoscopy and successful nasal/oral intubation techniques and confirms correct tracheal tube placement • Proper use of bougies • Correct securing and protection of LMAs/tracheal tubes during movement, positioning and transfer • Correctly conducting RSI sequence • Correctly conducting the technique of cricoid pressure •Failed intubation drill •Management of 'can't intubate, can't ventilate' scenario •Correct use of oropharyngeal, laryngeal and tracheal suctioning •Small and large bore needle cricothyrotomy and manual jet	(5 cases) (5 cases) (5 cases) (5 cases)

ventilation • Surgical cricothyrotomy	
Independently Perform (A)	Number
• Basic life support (effective chest compressions, airway manoeuvres, bag and mask ventilation). • Advanced life support: IV drugs; safe DC shocks when indicated; central line insertion, external pacing, endotracheal drug administration, identification and rectification of reversible causes of cardiac arrest	(5cases) (5 cases)

Test for the competency in the procedure*

Date	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Perform Independently
B- Perform under supervision
C- Observed/interpret

Test for the competency in the procedure*

Date	Procedure	Level of competency*	Signature of supervisor

A- Perform Independently
B- Perform under supervision
C- Observed/interpret

Test for the competency in the procedure*

Date	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Perform Independently
B- Perform under supervision
C- Observed/interpret

Other private study (ACLS Module)

Attendance

Date	Attendance	Topic	Signature

Anesthetic Management of Hepatobiliary Surgeries, Part 1 (II-3)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
10	40 hours	180 hours	-	80	-	300
Percentage%	13.3%	60%	-	26.7%	-	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
- Anesthetic Management of Hepatobiliary Surgeries Part 1	1.3	- Anesthesia and Intensive Care Department.	40 H - Anesthesia for patients with hepatocellular disease – Risk assessment and perioperative management - Anesthesia for endoscopic procedures in cirrhotic patients and for other procedures done by interventional radiology - Anesthetic management of Liver resections – including complex resections with vascular reconstruction Liver transplantation (Introduction). - update and evidence-based Knowledge of different modalities in practice of anesthesia	13.3%
	6		180 hours Clinical	60%
Student signature			Principle coordinator signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

Procedures log book

Observe / interpret (C):	Number
▪ Identify the perioperative anesthetic management plans for: --Patients with hepatocellular disease. -- Edoscopic procedures in cirrhotic patients and for other procedures done by interventional radiology -- Liver resections – including complex resections with vascular reconstruction -- Liver transplantation (Introduction).	(10 cases) (10 cases) (10 cases)
Perform under supervision (B):	Number
• Carry out perioperative anesthetic management plans for: -- Patients with hepatocellular disease. -- Edoscopic procedures in cirrhotic patients and for other procedures done by interventional radiology -- Liver resections – including complex resections with vascular reconstruction.	(10 cases) (10 cases) (10 cases)
Independently Perform (A)	Number
• Anesthesia for patients with hepatocellular disease. • Anesthesia for endoscopic procedures in cirrhotic patients and for other procedures done by interventional radiology. • Anesthetic management of Liver resections – including complex resections with vascular reconstruction.	(10 cases) (10 cases) (10 cases)

Test for the competency in the procedure*

Date	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Independently Interpret

B- Interpret/perform under supervision

C- Observed

Test for the competency in the procedure*

Date	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Perform Independently
B- Perform under supervision
C- Observed/interpret

Preanesthetic Evaluation module (II-4)

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
2 ECTS	10 H	30 H	-	20H	-	60 H
Percentage %	16.7%	50%	-	33.3%	-	100%

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Preanesthetic Evaluation	0.3	Anesthesia and Surgical Intensive Care	– 10 H – Detailed evaluation of cardiovascular function. – Detailed evaluation of physiological and functional reserve. – Guidelines for preoperative laboratory and clinical investigations. – Airway assessment. – Perioperative management of anticoagulants. **Describe the details of:** 1- Patient risk factors – ASA physical status – Functional status – Biomarkers 2- Surgical risk 3- Risk assessment tools. 4- Consent and decision making. 5- Preoperative testing	16.7%
	1		30 hours Clinical	50%
Student signature			Principle coordinator Signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

Procedures logbook

Observe / interpret (C):	Number
- Thrombophilia work-up for donor and recipient. - Chest X Ray, ECG, Echocardiography, pulmonary function test. - Dobutamin stress echo for the recipient. - Abdominal Ultrasonography and Doppler for donor and recipient. - Upper and lower endoscopy. -Work up of patients for transplantation - Preoperative Evaluation	 (5 cases) (5 cases) (5 cases) (5 cases) (5 cases) (5 cases)
Perform under supervision (B):	Number
• Airway assessment. • Risk assessment (ASA physical status, Functional status, Surgical risk). • Interpret: – Thrombophilia work-up for donor and recipient. – Chest X Ray, ECG, Echocardiography, pulmonary function test. - Dobutamin stress echo for the recipient. - Abdominal Ultrasonography and Doppler for donor and recipient. - Upper and lower endoscopy. - Work up of patients for transplantation	(5 cases) (5 cases) (5 cases) (5 cases) (5 cases) (5 cases) (5 cases) (5 cases)
Independently Perform (A)	Number
• Airway assessment. • Risk assessment (ASA physical status, Functional status, Surgical risk). • Interpret: – Thrombophilia work-up for donor and recipient. – Chest X Ray, ECG, Echocardiography, pulmonary function test. - Dobutamin stress echo for the recipient. - Abdominal Ultrasonography and Doppler for donor and recipient. - Work up of patients for transplantation	(5 cases) (5 cases) (5 cases) (5 cases) (5 cases) (5 cases) (5 cases)

Test for the competency in the procedure*

Date	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Perform Independently
B- Perform under supervision
C- Observed/interpret

Third Semester Modules

Anesthetic and Intensive Care Management of HPB Surgeries

1. Liver related Medical Sciences
2. Anesthetic Management of HPB Surgeries, Part 2
3. Intensive Care Patient Management

Liver Related Medical Sciences Module (III-1)

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Attendance of workshop or Conference related to hepatology Seminar attendance and/ or presentation, Hospital works)	Total Hours
5 CPS	30 H	60 H	-	60H	-	150 H
Percentage%	20%	40%	-	40%	-	100%

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Liver Related Medical Sciences	1	-Anesthesia and Surgical Intensive Care Department.	– 30 H - Acute on chronic liver failure. - -Hepatopulmonary syndrome. Portopulmonary hypertension. - Vascular diseases of the liver (portal, splenic, mesentric vein thrombosis, budd-chiari syndrome, veno-occlusive disease) - Cirrhotic cardiomyopathy. - Anesthesia and Peri-operative assessment of hepatic patient. -Assessment of surgical risk in liver cirrhosis. - Intensive care and prognosis scoring systems. - Haematological changes in liver disease. -Cardiac diseases and the liver/shock liver. -Liver and Kidney. - Liver support devices and implications	20%
	2		60 hours Clinical	40%
Student signature			Principle coordinator Signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

(Lectures)

Date	Attendance	Topic	Signature

Case log

Case	Number
- Acute on chronic liver failure.	5 cases
- Hepatopulmonary syndrome.	As logged
- Portopulmonary hypertension.	As logged
- Vascular diseases of the liver (portal, splenic, mesentric vein thrombosis, budd-chiari syndrome, veno-occlusive disease)	10 cases
- Cirrhotic cardiomyopathy.	As logged
- Anesthesia and Peri-operative assessment of hepatic patient.	10 cases
- Shock liver.	As logged

Clinical case log

Date	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision

Clinical case log

Date	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision

Clinical case log

Date	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision

Procedures log book

Observe / interpret (C):	Number
- Abdominal Ultrasonography and Doppler. - Echocardiography - Contrast Enhanced Echocardiography - Liver function testing. - Child and MELD Score	(5 cases) (5 cases) (5 cases) (5 cases) (5 cases)
Perform under supervision (B):	Number
• Blood gases interpretation. • Assessment of Surgical risk in Hepatic patients	(5 cases) (5 cases)
Independently Perform (A)	Number
• Blood gases interpretation. • Carry out patient management plans for: - Acute on chronic liver failure. - Hepatopulmonary syndrome. - Portopulmonary hypertension. - Vascular diseases of the liver (portal, splenic, mesentric vein thrombosis, buddchiari syndrome, veno-occlusive disease) - Cirrhotic cardiomyopathy.	(5 cases) (5 cases) (5 cases) (5 cases) (5 cases) (5 cases)

Test for the competency in the operation*

No.	Diagnosis of the case	Operation	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Performance under supervision

C- Observed/Interpret

Test for the competency in the operation*

No.	Diagnosis of the case	Operation	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Performance under supervision

C- Observed

Anesthetic Management of Hepatobiliary Surgeries, Part 2 (III-2)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
10 CP	40 hours	180 hours	-	80	-	300
Percentage%	13.3%	60%	-	26.7%	-	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
- Anesthetic Management of Hepatobiliary Surgeries, Part 2	1.3	Anesthesia and Surgical Intensive Care Department	40 H - Anaesthetic management of Hepaticojejunostomy - Anaesthetic management of Whipples procedure - Anaesthetic management of Portosystemic shunt operations - Anaesthetic management of Biliary atresia	13.3%
	6		180 H Clinical	60%
Student signature			Principle coordinator signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

Procedure log of:

Observe:	**Number**
- Anaesthetic management of Hepaticojejunostomy. - Anaesthetic management of Whipples procedure. - Anaesthetic management of Portosystemic shunt operations. - Anaesthetic management of Biliary atresia.	(5 cases) (5 cases) (5 cases) (5 cases)
Log of under supervision:	
- Anaesthetic management of Hepaticojejunostomy. - Anaesthetic management of Whipples procedure. - Anaesthetic management of Portosystemic shunt operations. - Anaesthetic management of Biliary atresia.	(5 cases) (5 cases) (5 cases) (5 cases)
Independently Perform:	
- Anaesthetic management of Hepaticojejunostomy. - Anaesthetic management of Whipples procedure. - Anaesthetic management of Portosystemic shunt operations. - Anaesthetic management of Biliary atresia.	(10 cases) (10 cases) (5 cases) (5 cases)

Test for the competency in Anaesthetic management of Hepaticojejunostomy

No.	Diagnosis of the case	Operation	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Performance under supervision

C- Observed

Test for the competency in Anaesthetic management of Whipples procedure *

No.	Diagnosis of the case	Operation	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance
B- Performance under supervision
C- Observed

Test for the competency in **Anaesthetic management of Portosystemic shunt operations**

No.	Diagnosis of the case	Operation	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Performance under supervision

C- Observed

Test for the competency in **Anaesthetic management of Biliary atresia**

No.	Diagnosis of the case	Operation	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Performance under supervision

C- Observed

Intensive Care Patient Management Module (III-3)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
15 CP	60 H	240	30	120 H	-	450 H
Percentage%	13.3%	53.3%	6.7%	26.7%	-	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Intensive Care Patient Management	2	Anesthesia department.	60 H - Intensive care management of patients undergoing liver related surgeries - Mechanical ventilation - Renal replacement therapy - ICU care bundles - Tracheostomy - Ultrasonography in ICU - Plasmapharesis - Acid base imbalance - Intensive Care Management of Patients with Acute-on-Chronic Liver Failure (ACLF).Intensive care and prognosis scoring systems. - ARDS - Sepsis	13.3%
	1		30 hours Home work	6.7%
	8		240 hours (Clinical)	53.3%
Student signature			Principle coordinator signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

(Lectures)

Date	Attendance	Topic	Signature

Procedure log of:

Order and interpret (C)	Number
Order	
- CVP (order).	**(5 cases)**
- Arterial blood gases	**(5 cases)**
- Ventilator adjustment	**(5 cases)**
Interpret:	
- Hemodynamic Monitoring	**(5 cases)**
- ABGs	**(5 cases)**
Log of under supervision (B)	
- airway management	**(5 cases)**
- ABG sampling	**(5 cases)**
- CVP measurement	**(5 cases)**
- Ventilator adjustment	**(5 cases)**
- Chest care	**(5 cases)**
Independently Perform (A)	
- airway management	**(10 cases)**
- ABG sampling	**(10 cases)**
- CVP measurement	**(10 cases)**
- Ventilator adjustment (NIV &IPPV modes and settings)	**(10 cases)**
- Chest care	**(10 cases)**
- Syringe pump adjustment	**(10 cases)**

Test for the competency in the procedure *

No.	Diagnosis of the case	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Performance under supervision

C- Observed

Test for the competency in the procedure*

No.	Diagnosis of the case	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Performance under supervision

C- Observed

Homework

Date	Topic	Signature

Fourth Semester Modules

Anesthetic and Intensive Care Management of Liver Transplant Surgeries

1- Transplantation Related Medical Sciences
2-Anesthetic Management of Liver Transplant Surgeries
3-Liver Transplant Intensive Care

Transplantation Related Medical Sciences Module (IV-1)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
5 CP	40	-	10	80	20 (Conference)	150 H
Percentage%	28.7%	-	6.7%	53.3%	13.3%	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Transplantation Related Medical Sciences.	1.4	- Anesthesia and Surgical Intensive Care Department	40 H - Liver transplantation (History and evolution) - Concept of living donor transplantation - Organ procurement and donation – basics - Indications, contraindications and outcomes of liver transplantation – an overview - Reperfusion syndrome in clinical liver transplantation - Infectious diseases and transplantation - Understanding and recognizing complications related to liver transplantation and HPB surgeries	28.7%
	0.6		20 hours Conference/Workshop	13.3%
	0.3		10 Hours Home work	6.7%
Student signature			Principle coordinator signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

Conferences

Requirements:

- Attendance of at least one conference

Attendance

Date	Attendance	Topic	Signature

Case or Topic presentation

Date	Case/ Topic	Signature

Home work log

Date	Topic	Signature

Anesthetic Management of Liver Transplant Surgeries Module (IV-2)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
10 CP	40	180	-	80	-	300 H
Percentage%	13.3%	60%		26.7%	-	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
- Anesthetic Management of Liver Transplant Surgeries	1.3	- Anesthesia and Surgical Intensive Care department	- Acute liver failure - Anaesthetic management of Donor Hepatectomy - Anaesthesia for liver transplantation in adults (preoperative evaluation and perioperative management) - Anaesthesia for retrieval in cadaveric transplantation - Use of Cell Saver and Rapid Infusion System - Anaesthetic management of Split liver transplantation - Anaesthetic management of Auxiliary liver transplantation - Anaesthetic management of Paediatric liver transplantation - Anaesthetic management of Acute liver failure presenting for liver transplantation	13.3%
	6		180 hours Clinical/practical	60%
Student signature			Principle coordinator signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

(Lectures)

Date	Attendance	Topic	Signature

Procedure log of:

Order and interpret under supervision (B)	Number
Order and interpret:	
- Chest X Ray	(5 cases)
- ECG,	(5 cases)
- Echocardiography	(5 cases)
- Dobutamin stress echo for the recipient.	(5 cases)
, Pulmonary function test for donor and recipient.	(5 cases)
- Arterial blood gas	(5 cases)
- Liver function testing.	(5 cases)
- Transesophageal Echocardiography (TEE)	(5 cases)
- Thrombophilia work-up for donor and recipient.	As logged
Interpret:	
- Coagulation monitoring including Thromboelastogram (TEG), ROTEM and Sonoclot.	As logged
- Cardiac output monitoring – PiCCO, TOE, Swan-Ganz.	(5 cases)
- Intracranial pressure monitoring	(5 cases)
Perform under supervision (B)	**Number**
- Airway management	(5 cases)
- Local anesthetic techniques	(5 cases)
- Arterial line placement (radial and femoral)	(5 cases)
- Central venous catheterization (femoral, internal jugular and subclavian veins)	As logged
– Ultrasound guided vascular access.	(5 cases)
- Use of Cell Saver and Rapid Infusion System	(5 cases)
Independently perform (A)	**Number**
- Airway management	(5 cases)
- Local anesthetic techniques	(5 cases)
- Arterial line placement (radial and femoral)	(5 cases)
- Central venous catheterization (femoral, internal jugular and subclavian veins)	(5 cases)
- Anaesthesia for Donor hepatectomy.	(5 cases)
- Anaesthesia for liver transplantation in adults.	(5 cases)
- Anaesthesia for retrieval in cadaveric transplantation	(5 cases)
- Anaesthesia for Split liver transplantation	(5 cases)
- Anaesthesia for Auxiliary liver transplantation	(5 cases)
- Anaesthesia for Paediatric liver transplantation	(5 cases)
- Anaesthetic management of Acute liver failure presenting for liver Transplantation	(5 cases)

Test for the competency in the procedure *

No.	Diagnosis of the case	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Perform/ interpret under supervision

C- Observed

Test for the competency in the procedure *

No.	Diagnosis of the case	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Perform/ interpret under supervision

C- Observed

Liver Transplant
Intensive Care Module (IV-3)

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
15 CP	60	240	30	120	-	450 H
Percentage%	13.3%	53.3%	6.7%	26.7%	-	100%

Name of the module	Credit points	Responsible department	Attendance	Percentage of Achieved points
Liver Transplant Intensive Care	2 CP	- Anesthesia and Surgical Intensive Care department	60 H - Post-operative circulatory instability, hemodynamic monitoring and stabilization - Fluid and electrolyte management - Post-operative ventilatory support and weaning from mechanical ventilation - Assessment of graft function - Immunosuppression protocols - Infection prophylaxis - Post- LT nutrition therapy - Early post-operative complications - Postoperative pain control in transplant patients	13.3%
	8 CP		240 H Clinical	53.3%
	1 CP		30H Home work	6.7%
Student signature			Principle coordinator Signature	Program Academic Director signature

(Lectures)

Date	Attendance	Topic	Signature

(Lectures)

Date	Attendance	Topic	Signature

Procedure log of:

Order and interpret under supervision (B)	Number
Order	
☐ CVP (order)	(5 cases)
☐ Arterial blood gases	(5 cases)
☐ Ventilator adjustment	(5 cases)
Interpret:	
☐ Hemodynamic Monitoring	(5 cases)
☐ ABGs	(5 cases)
Perform under supervision (B)	**Number**
☐ airway management	(5 cases)
☐ ABG sampling	(5 cases)
☐ CVP measurement	(5 cases)
☐ Ventilator adjustment	(5 cases)
☐ NIV &IPPV modes and settings	(5 cases)
☐ CRRT processing	(5 cases)
☐ Chest care	(5 cases)
☐ Syringe pump adjustment	(5 cases)
☐ Carry out patient management plans for common conditions related to liver transplant Intensive Care as: - Post-Operative Circulatory Instability, Hemodynamic Monitoring and Stabilization - Fluid and electrolyte management - Post-Operative Ventilatory Support And weaning From Mechanical Ventilation - Assessment of Graft Function - Immunosuppression - Infection Prophylaxis - Post-Oltx Nutrition Therapy	(5 cases)
Independently perform (A)	**Number**
☐ Airway management	(5 cases)
☐ ABG sampling	(5 cases)
☐ CVP measurement	(5 cases)
☐ Ventilator adjustment	(5 cases)
☐ NIV &IPPV modes and settings	(5 cases)
☐ CRRT processing	(5 cases)
☐ Chest care	(5 cases)

□ Syringe pump adjustment □ Carry out patient management plans for common conditions related to liver transplant Intensive Care as: - Post-Operative Circulatory Instability, Hemodynamic Monitoring and Stabilization - Fluid and electrolyte management - Post-Operative Ventilatory Support And weaning From Mechanical Ventilation - Assessment of Graft Function - Immunosuppression - Infection Prophylaxis - Post-Oltx Nutrition Therapy	(5 cases) (10 cases)

Test for the competency in the procedure *

No.	Diagnosis of the case	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Perform /interpret under supervision

C- Observed

Test for the competency in the procedure *

No.	Diagnosis of the case	Procedure	Level of competency*	Signature of supervisor

Level of competency *

A- Independent performance

B- Perform / interpret under supervision

C- Observed

Home work log

Date	Topic	Signature

Declaration

Module Structure Mirror	Responsible (module) Coordinator Name:	Signature	Date
<u>Semester 1:</u> Basic Sciences + Elective Module **Basic science:** 1- Anatomy 2- Physiology. 3- Microbiology. 4- Pharmacology. 5- Clinical Pathology and Laboratory Testing. 6- Basic Nutrition 7- Basic and Advanced Infection Control in hepatic patient 8- Statistics and Research methodology 9- Evidence based Medicine 10- Information Technology **Elective Modules** (Medical Ethics/ Hospital administration)			
<u>Semester 2:</u> Speciality Related Anesthesia Sciences 1- Patient monitoring. 2- Perioperative Emergences. 3- Anesthetic Management of HPB Surgeries Part 1. 4- Preanesthetic Evaluation.			
<u>Semester 3:</u> Anesthetic and Intensive Care Management of HPB Surgeries 1- Liver Related Medical Sciences. 2- Anesthetic Management of HPB Surgeries Part 2. 3- Intensive care Patient Management.			
<u>Semester 4:</u> Anesthetic and Intensive Care Management of Liver Transplant Surgeries 1. Transplantation Related Medical Sciences. 2. Anesthetic Management of Liver Transplant Surgeries. 3. Liver Transplant Intensive Care.			
- Fulfillment of required credit points prior to final examination			
Professional Diploma Principle Coordinator			