





Erasmus HPB and Liver Transplant Anesthesia and intensive care Diploma **Assiut University**

Faculty of Medicine

PROFESSIONAL DIPLOMA DEGREE PROGRAM AND MODULES SPECIFICATIONS FOR

Hepato-Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care

(According to currently applied credit points bylaws)

Faculty of medicine Assiut University 2019-2021

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Diploma of Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care

A. Basic Information

- Program Title: Professional Diploma degree in Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care
- **Wature of the program:** Single.
- **4** Responsible Department:
 - Department of Anesthesia and surgical intensive care Faculty of Medicine- Assiut University.
- Program Academic Director (Head of the Department):
 - Prof. Dr Esam Ezzat Abd El-Hakeem
- Coordinator (s):
 - Principle coordinator:
 - Ass.Prof.Dr Mostafa Samy Abbas

Assistant coordinator (s)

- Dr. Magdy Mohamed Mahdy
- Dr. Ayman Abdelkhalek
- Dr. Ahmed Hamada
- Dr. Hitham Mohamed

Internal evaluators:

- Prof.Mohamed Mohamed Abdullatif Jadel-Mola
- Prof. Essam Sharkawy Abdalla Sharkawy
- Prof. Zainel-Abidin Zare Hasan
- Prof. Osama Ali Mohamed
- Prof. Abdel- Radi Shehata Ibrahim
- External evaluator: Gamal ElDin Mohammad Ahmad Elewa , Professor of Anesthesia Ain Shams University
- Date of Approval by the Faculty of Medicine Council of Assiut University/...../.....
- Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University/...../.....
- **Total number of Modules:** 20 Compulsory Modules + 1 Elective Module

B. Professional Information

1- 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.

2- Intended learning outcomes (ILOs) *for the whole program*:

2-1 Knowledge and understanding:

- A. Explain the essential facts and principles of relevant basic sciences including Anatomy, Physiology, Microbiology and Pharmacology related to Hepatopancreatico-biliary and Liver Transplant Anesthesia.
- B. Mention <u>essential facts</u> of clinically supportive sciences including basics of clinical pathology and Laboratory Testing, nutrition and infection control related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- C. Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- D. Give the recent and update developments in the pathogenesis, diagnosis, prevention and surgical treatment of common diseases related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- E. Mention the basic ethical and medico-legal principles that should be applied in practice and are relevant to the Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- G. Mention the ethical and scientific principles of medical research methodology, information technology and evidence based medicine.

H. State the impact of common health problems in the field of Hepatopancreatico-biliary and Liver Transplant Anesthesia on the society and how good clinical practice improves these problems.

2-2- Intellectual outcomes

- A- Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- B- Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- C- Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- D-Formulate management plans and alternative decisions in different situations in the field of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.

<u>2-3- Skills</u>

2-3-1- Practical skills (Patient Care)

- A. Obtain proper history and examine patients in caring and respectful behaviors.
- B. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment for common conditions related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- C. Carry out patient management plans for common conditions related to Hepatopancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- D. Decisions and patient education in common clinical situations related to Hepatopancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- E. Perform competently noninvasive and invasive procedures considered essential for Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- F. Provide health care services aimed at preventing health problems related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- G. Provide patient-focused care in common conditions related to Hepatopancreatico-biliary and Liver Transplant Anesthesia and Intensive care, while working with health care professionals, including those from other disciplines
- H. Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)

2-3-2- General skills

Including:

- Practice-based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-based Practice

Practice-Based Learning and Improvement

- A. Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use Portfolio).
- **B.** Appraises evidence from scientific studies.
- c. Conduct epidemiological Studies and surveys.
- **D.** Perform data management including data entry and analysis using information technology to manage information, access on-line medical information; and support their education.
- **E.** Facilitate learning of students and other health care professionals including their evaluation and assessment.

Interpersonal and Communication Skills

- **F.** Maintain therapeutic and ethically sound relationship with patients.
- **G.** Elicit information using effective nonverbal, explanatory, questioning, and writing skills.
- **H.** Provide information using effective nonverbal, explanatory, questioning, and writing skills.
- I. Work effectively with others as a member of a health care team or other professional group.

Professionalism

- J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society
- K. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices
- L. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

Systems-Based Practice

- **M.** Work effectively in relevant health care delivery settings and systems including good administrative and time management.
- **N.** Practice cost-effective health care and resource allocation that does not compromise quality of care.
- **o.** Assist patients in dealing with system complexities.

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for Professional Diploma degree in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care

Assiut Faculty of Medicine developed master degree programs' academic standards for different clinical specialties.

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program.

These standards were approved by the Faculty Council on 17-6- 2009. These standards were revised and approved without changes by the Faculty Council on 23-9-2014.

During preparation of Professional Diploma in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care, the master degree programs' academic standards for different clinical specialties were adopted.

4- Program External References (Benchmarks)

1. ACGME (Accreditation Council for Graduate Medical Education). http://www.acgme.org/acWebsite/navPages/nav_Public.asp

5. Program Structure and Contents

A. Duration of program: 2 years

B. Structure of the program:

According the currently applied bylaws:

Total number of credit point: 120 ECTS

Total marks = 2400 marks in **four Semesters.** [Each 1 ECTS= 20 marks=30 hours] Compulsory Modules: 98.5%

Elective Module: 2 credit point: 1.5%

Name	ECTS	% from total
 Basic modules 	28	21.5%
 Specialty Related Anesthesia Sciences 	30	23%
 Anesthetic and Intensive Care Management of HPB Surgeries 	30	23%
 Elective module 	2	1.5%
 Anesthetic and Intensive Care Management of Liver Transplant Surgeries 	30	23 %
 Others (Computer,) 	1	0.8%
 Field training 	44	36.7%
Total	120	100%

4 <u>1st Semester: Basic Science and Elective Modules</u>

- **Duration**: 6 months
- **<u>Contents</u>**: **<u>Track 1</u>**: Basic Sciences Modules (9 modules)

Track 2: Elective Module (2 modules)

Modules	ECTS	Marks	Hours
1- Anatomy	6	120	180
2- Physiology	4	80	120
3- Microbiology	3	60	90
4- Pharmacology	5	100	150
5- Clinical Pathology and Laboratory Testing	2	40	60
6- Nutrition	2	40	60
7- Basic and Advanced Infection Control in	2	40	60
hepatic patient			
8- Research methodology & Statistics.	2	40	60
9- Evidence based Medicine	1	20	30
10- Information Technology	1	20	30
11- Elective modules*	2	40	60
Total	30	600	900

* Elective modules (choose from the following):

- Hospital administration
- Medical Ethics

⁴ 2nd Semester: Specialty Related Anesthesia Sciences

- **Duration**: 6 months
- **Contents**: 4 modules

ourse	Monitoring	Perioperative	Anesthetic	Preanesthetic	Total
		Emergencies	Management of	Evaluation	
			HPB Surgeries		
			Part 1		
СР	10	8	10	2	30
Marks	200	160	200	40	600
Hours	300	240	300	60	900

4 <u>3rd Semester: Anesthetic and Intensive Care Management of HPB Surgeries</u>

- Duration: 6 months.
- Contents: 3 modules.

Module	Liver Related	Anesthetic	Intensive Care	Total
	Medical Sciences	Management	Patient	
		of HPB	Management	
		Surgeries Part		
		2		
СР	5	10	15	30
Marks	100	200	300	600
Hours	150	300	450	900

4 4th Semester: Anesthetic and Intensive care Management of Liver Transplant Surgeries

- Duration: 6 months.
- Contents: 3 modules

Track: Anesthetic and Intensive Care Management of Liver Transplant Surgeries colontation Anosthatic ··· -

Surgemes	
Module	Tran

Module	Transplantation	Anesthetic	Liver	Total
	Related	Management	Transplant	
	Medical	of Liver	Intensive Care	
	Sciences	Transplant		
		Surgeries		
СР	5	10	15	30
Marks	100	200	300	600
Hours	150	300	450	900

C. 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 clinical supportive science modules.
- Students are allowed to sit the exams of these modules at the end of the semester.
- 3rd and 4th Semesters: (1 year).
 - Program related specialty modules and ILOs
 - 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.

Total degrees: 2400 marks. Speciality Modules: 1800 marks. For speciality Modules

- Written exam: 56.4 % [1016 marks].
- Oral and Practical 43.6% [836 Marks]
- Portfolio 25 % of degree for oral exams

D. Curriculum Structure (modules):

				Stu	udent Wor	kload		
Code No.	Module Title	СР	Lecture	Practical	Homework/ Assignment	Test Preparation	Other Private study #	Total Hours
			First sem	ester (30 EC	TS)			
Track	1: Basic Sciences (10 mo	dules)					
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
Track	2: Elective modules (1 mo	odule)					
10	Elective module	2	Student W	orkload differ	according m	odule type	-	60
	-	_	Second ser	nester (30 E	CTS)		_	_
Track:	Specialty Related Anesth	esia S	Sciences (4 m	odules)				
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 sem	ester (30 EC	CTS)			
Track:	Anesthetic and Intensive	Care	Managemer	nt of HPB Surge	eries (3 modu	ules)		
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 sem	nester (30 E	CTS)			
Track:	Anesthetic and Intensive	Care	Managemen	t of Liver Tran	splant Surge	ries (3 module	es)	
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

<u>Student work load calculation</u>: One ECTS = 30 working contact hours (contact and non-contact).

One lecture = 3 hours = 1/10 ECTS [1 ECTS = 10 lectures]

One practical day = 6 hours = 1/5 ECTS [1 ECTS = 5 practice days]

One day on-duty = 10 hours = 1/3 ECTS [1 ECTS = 3 on-duty days]

<u>**# Student private study</u>** includes: Reports, Seminars, Projects, Workshops, Conferences, Fieldworks, Hospital works, Journal Club, portfolio, Video-conferences, Internet Activities.</u>

1 active seminar/workshop = 1 ECTS = 30 h

- 1 passive attendance seminar /work shop = 1/5 ECTS= 6 h
- 1 passive attendance in specialized conference = 1/2 ECTS= 15 h

6. Module Contents (Annex 1)

The competency based objectives for each module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

See Annex 1 for detailed specifications for each module

7-Admission requirements

Admission Requirements (prerequisites) if any :

Master degree in Anesthesia

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working candidate 2 weeks leave prior to first/ second /third / fourth semester exams.

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post-graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first semester could be set at 6 months from registering to the Professional Diploma degree.
- Examination of the fourth semester cannot be set before 2 years from registering to the degree.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and specialty modules of this program as regulated by the post graduates approved rules by the faculty council.

2. Completing all scheduled ECTS and Portfolio (minimum 80%).

9- Program assessment methods and rules (Annex IV)
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Method ILOs measured

Written examinations: Structured essay questions Objective questions: MCQ Problem solving	Κ&Ι
Clinical: Long/short cases OSCE	K , I, P &G skills
Structured oral	K , I &G skills
Portfolio assessment	All
Research assignment	I &G skills

Weighting of assessments:

Modu	les		Degrees			
		Module	Written	C	Degree	Total
		code	Exam	Oral	Practical /	
First C				Exam*	Clinical Exam	
First S	emester		70	50		120
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	-	10	20
			Assignment			
10. Information Technology		HBA429B§	-	-	20	20
11. Elective modules			Distribution of the degree according to		40	
- Hospital Administration /OR			n	nodule typ	e	
	- Medical Ethics					
Secon	d Semester	ſ			I	
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 S	Semester					
1.	Liver Related Medical Sciences	HBA429F	60		40	100
2.	Anesthetic Management of HPB	HBA429G	120		80	200
	Surgeries Part 2					
3.	Intensive Care Patient Management	HBA429H	180		120	300
Fourth	n Semester					
1.	Transplantation Related Medical	HBA429I	60	40	-	100
	Sciences					
2.	Anesthetic Management of Liver	HBA429J	120	50	30	200
	Transplant Surgeries					
3.	Liver Transplant Intensive Care	HBA429K	180	80	40	300
Total						2400

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

10-Program evaluation

By whom	method	sample
Quality Assurance Unit	Reports	#
	Field visits	
External Evaluator	Reports	#
(s):According to	Field visits	
department council		
External Examiner (s):		
According to department		
council		
Stakeholders	Reports	#
	Field visits	
	Questionnaires	
Senior students	Questionnaires	#
Alumni	Questionnaires	#

#Annex 5 contains evaluation templates and reports (Joined in the departmental folder).

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.

All Module specifications for this program are in place.

Contributor	Name	Signature	Date
 Program Principle Coordinator: 	Ass.Prof.Dr Mostafa Samy Abbas		
 Program Academic Director: 	Prof Dr . Esam Ezzat A El-Hakeem		

Annex 1, Specifications for Courses / 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

- 1. Hospital Administration
- 2. Medical Ethics

Anatomy Module (I-1)

Name of department: Anatomy

Faculty of medicine Assiut University 2019-2021

1. Module data

- ∔ 🛛 Module Title: Anatomy
- **4 Module code:** нва401
- Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care.
- Total CP= 6 / total marks : 120 / total hours 180

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

- Department (s) delivering the Module: Anatomy in conjunction with Diploma coordinators.
- Coordinator (s):

Staff members of anatomy Department in conjunction with Anesthesia and Surgical Intensive Care Department as annually approved by both departments' councils

- Date last reviewed: 6/2019.
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts of anatomy necessary for the Hepatopancreatico-biliary and Liver Transplant Anesthesia and Intensive care.

3. Intended learning outcomes (ILOs):					
A- Knowledge and un	derstanding				
	Methods of	Methods of			
	teaching/	Evaluation			
	Learning				
A1. Describe Principles of	-Lectures	-Written and oral			
- Liver anatomy.		examination			
- Anatomy of Pancreatico-biliary system		- Portfolio			
- Splanchnic Circulation					

B- Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
B1. Correlates the facts of anatomy with clinical reasoning, diagnosis and management of common diseases related to the Hepato- pancreatico-biliary and Liver Transplant anesthesia and Intensive care.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio

C- Practical skills = 0

D- General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ Learning	Methods of Evaluation
D1-Use information technology to manage	-Observation and	Oral Exam
information, access on-line medical information; and	supervision	Portfolio
support their own education	-Written and oral	
	communication	
Interpersonal and Communica	ation Skills	
ILOs	Methods of	Methods of
	teaching/	Evaluation
	Learning	
D2. Work effectively with others	-Observation	Oral Exam
	and supervision	Portfolio
	-Written and	Check list
	oral	
	communication	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation			
D3. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio			
Systems-Based Practice					

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topics/modules/rotation) Module Matrix

Time Schedule: First semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Intellectual Practical B skill C	
Liver anatomy	A1	B1	-	D1-D4
Pancreatico-biliary anatomy	A1	B1	-	D1-D4
Splanchnic circulation	A1	B1	-	D1-D4

5. Module Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Module Methods of teaching/learning: for students with poor achievements

- **1**. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Module assessment methods:

i. Assessment tools:

- Written and oral examination
- Portfolio
- ii. Time schedule: At the end of the first Semester

iii. Marks: 120

- Written = 70
- Oral = 50

8. List of references

- Lectures notes
- Essential books
 - Gray's Anatomy of the Human Body (30th Edition)
- **Periodicals, Web sites**, ... etc: None
- others: None

9. Signatures				
Module Coordinator				
Module Coordinator:	Head of the Department:			
••••••				
Date:	Date:			

Physiology Module (I-2)

Name of department: Physiology DepartmentFaculty of medicine Assiut University2019-2021

1. Module data

- Module Title: Physiology
- Module code: нва403
- Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant anesthesia and Intensive care.
- Number of ECTS : 4

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

- Department (s) delivering the Module: Physiology in conjunction with Diploma coordinators.
- Coordinator (s):

Staff members of Physiology Department in conjunction with Anesthesia and Intensive Care Department as annually approved by both departments' councils

- **4** Date last reviewed: 5/2019.
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts of Physiology necessary for the Hepatopancreatico-biliary and Liver Transplant anesthesia and Intensive care.

	3. Intended learning ou	tcomes (ILOs):	
	A- Knowledge and ur	derstanding	
		Methods of	Methods of
ILOS		teaching/	Evaluation
		Learning	
A1.	Describe Principles of:	-Lectures	-Written and oral
-	Portal circulation		examination
-	Liver function with details of role of liver in		- Portfolio
	metabolism		
-	Bile synthesis, secretion and its function		
-	Secretory function of pancreas		
-	Control in pancreatic secretion and bile flow		
-	Coagulation system.		

B- Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
B1. Correlates the facts of physiology with clinical reasoning, diagnosis and management of common diseases related to the Hepato- pancreatico-biliary and Liver Transplant anesthesia and Intensive care	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio

C- Practical skills = 0 D- General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ Learning	Methods of Evaluation
D1.Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Portfolio
Interpersonal and Communication	on Skills	
ILOs	Methods of teaching/ Learning	Methods of Evaluation
D2. Work effectively with	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D3. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topics/modules/rotation) Module Matrix

Time Schedule: First semester

	Торіс	Covered ILOs			
		Knowledge A	Intellectual B	Practical skill C	General Skills D
-	Portal circulation	A1	B1	-	D1-D4
-	Liver function with details of role of liver in metabolism	A1	B1	-	D1-D4
I	Secretory function of pancrease and Control in pancreatic secretion and bile flow	A1	B1	-	D1-D4
-	Bile synthesis, secretion and its function	A1	B1	-	D1-D4
-	Coagulation system	A1	B1	-	D1-D4

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- Written and oral examination
- Portfolio

ii. Time schedule: At the end of the first Semester

iii. Marks: 80 (50 Writen + 30 oral)

8. List of references

- Lectures notes
- Essential books

Guyton and Hall Textbook of Medical Physiology 13th Edition

- Periodicals, Web sites, ... etc: None
- Others: None

9. Signatures			
Module Coordi	nator		
Module Coordinator:	Head of the Department:		
	•••••		
Date:	Date:		

Microbiology Module (I-3)

Name of department: Microbiology and Immunology Department.Faculty of medicine Assiut University2019-2021

1 Module data

- **4** Module Title: Microbiology
- **Module code:** HBA407
- **Specialty: Professional Diploma in the Hepato**-pancreatico-biliary and Liver Transplant anesthesia and Intensive care.
- **Wumber of ECTS: 3.**

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

- Department (s) delivering the module: Microbiology and Immunology in conjunction with Diploma coordinators.
- **Coordinator (s):**

Staff members of Microbiology and Immunology Department in conjunction with Anesthesia and surgical Intensive Care Department as annually approved by both departments' councils

- **4** Date last reviewed: 6/2019.
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts of microbiology necessary for the Hepatopancreatico-biliary and Liver Transplant anesthesia and Intensive care.

3. Intended learning outcomes (ILOs):				
A- Knowledge a	A- Knowledge and understanding			
II Os	Methods of	Methods of		
	teaching/	Evaluation		
	Learning			
A1. Describe Principles of	-Lectures	-Written and oral		
 Principles of immune response 		examination		
 Basic of humoral and cellular immune 	ê 🛛	- Portfolio		
response				

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
B1. Correlates the facts of microbiology and immunology with clinical reasoning, diagnosis and management of common diseases related to the Hepato-pancreatico-biliary and Liver Transplant anesthesia and Intensive care.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio

C- Practical skills = 0

D- General Skills Practice-Based Learning and Improvement

ILOs	Methods of	Methods
	teaching/	of
	learning	Evaluation
D1-Use information technology to manage	-Observation and	Oral Exam
information, access on-line medical information; and	supervision	Portfolio
support their own education	-Written and oral	
	communication	
Interpersonal and Communication	on Skills	
ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
D2. Write a report in common condition mentioned	-Observation and	Oral Exam
in A1	supervision	Portfolio
	-Written and oral	Check list
	communication	

Professionalism

ILOs	Methods o teaching/ learning	f Methods of Evaluation
D3. Demonstrate a commitment to ethical principles	Senior Staf Experience	f Oral Exam Portfolio

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topics/modules/rotation) Module Matrix

Time Schedule: First semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
 Principles of immune response 	A1	B1	-	D1-D4
 Basis of humoral and cellular immune response 	A1	B1	-	D1-D4

5. Methods of teaching/learning:

- **1**. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- **1**. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- Written and oral examination
- Portfolio

ii. Time schedule: At the end of the first Semesteriii. Marks: 60 (Written 40 + 20 oral)

8. List of references

- Lectures notes
- Essential books, Microbiology: An Introduction 12th Edition
- Periodicals, Web sites, ... etc: None
- others: None

9. Signatures			
M	odule Coordinator		
Module Coordinator:	Head of the Department:		
•••••	••••••		
Date:	Date:		

Pharmacology Module (I-4)

Name of department: PharmacologyFaculty of medicine Assiut University2019-2021

1. Module data

- **Wodule Title: Pharmacology**
- **Module code:** HBA406
- **Specialty: Professional Diploma in the** Hepato-pancreatico-biliary and Liver Transplant anesthesia and Intensive care

Wumber of ECTS: 5

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

- **4** Department (s) delivering the module: Pharmacology in conjunction with Diploma coordinators.
- **Coordinator** (s):

Staff members of Pharmacology Department in conjunction with Anesthesia and Surgical Intensive Care Department as annually approved by both departments' councils

- **Jate last reviewed: 5/2019.**
- **General requirements (prerequisites) if any : None**
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

The student should acquire the facts of pharmacological aspects for Hepatopancreatico-biliary and Liver Transplant anesthesia and Intensive care.

3. Intended learning outcomes (ILOs):					
A- Kn	owledge and und	erstanding			
ILOs	Methods of teaching/ learning	Methods of Evaluation			
 A1. Describe Principles of 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. 	-Lectures	-Written and oral examination - Portfolio			

B- Intellectual outcomes

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
B1. Correlates the facts of Pharmacology with clinical reasoning, diagnosis and management of common diseases related to the Hepato-pancreatico-biliary and Liver	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio
Transplant anesthesia and Intensive care.		

C- Practical skills = 0

D- General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ Learning	Methods of Evaluation
D1.Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Oral Exam Portfolio
Interpersonal and Communicat	ion Skills	
ILOs	Methods of teaching/ learning	Methods of Evaluation

D2. Write a report in common condition mentioned in A1	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list
Professionalism		
ILOs	Methods of teaching/ learning	Methods of Evaluation
D3. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio

Systems-Based Practice		
ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Contents (topic s/modules/rotation Module Matrix					
Time Schedule: First semest	er				
Торіс		Covered	ILOs		
	Knowledge	Intellectual	Practical	General	
	Α	В	skill C	Skills D	
- Mechanism of drug	A1	B1	_	D1-D4	
resistance and					
indications of					
chemoprophylaxis					
 Drugs used in portal 	A1	B1	-	D1-D4	
hypertension					
- Antiviral agents	A1	B1	-	D1-D4	
- Antibacterial Agents	A1	B1	-	D1-D4	
- Antifungal Agents	A1	B1	-	D1-D4	
- Immunosuppression –	A1	B1	-	D1-D4	
basics and commonly					
used drugs – doses,					
monitoring and					
adverse effects					
 Commonly used drugs 	A1	B1	-	D1-D4	

in patients with end		
stage liver disease.		

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs
 - 7. Assessment methods:

i. Assessment tools:

- Written and oral examination
- Portfolio
- ii. Time schedule: At the end of the first Semester

iii. Marks: 100 (60 written + 40 oral)

8. List of references

- Lectures notes
- Essential books, Lippincott Illustrated Reviews: Pharmacology 6th edition
- Periodicals, Web sites, ... etc: None
- Others: None

9. Signatures				
Modu	le Coordinator			
Module Coordinator:	Head of the Department:			
•••••	•••••			
Date:	Date:			

Clinical Pathology and Laboratory testing Module (I-5)

Name of department:Clinical Pathology DepartmentFaculty of medicine Assiut University2019-2021

1. Module data

Module Title: Clinical Pathology

- **Module code:** HBA431
- **Speciality: Professional** Diploma in the Hepato-pancreatico-biliary and Liver Transplant anesthesia and Intensive care
- Number of ECTS : 2

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

- Department (s) delivering the module: Clinical Pathology in conjunction with Diploma coordinators.
- **Coordinator (s):**

Staff members of Clinical Pathology Department in conjunction with Anesthesia and Surgical Intensive Care Department as annually approved by both departments' councils

- Date last reviewed: 5/2019.
- General requirements (prerequisites) if any: None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts of laboratory investigations necessary for the Hepato-pancreatico-biliary and Liver Transplant anesthesia and Intensive care.

3. Intended learning outcomes (ILOs):								
A- Knowledge and understanding								
ILOs	Methods of teaching/ learning		Methods of Evaluation		ls of ion			
 A1. Describe Principles of Interpretation of liver function tests; Normal Markers of cholestasis and cholangitis, Synthetic function (INR, clotting factors, albumin, bilirubin). Coagulation studies Sepsis biomarkers 	-L0	ectures	-Wr exai - Po	itter mina ortfo	n and oral ation lio			
B- Intellectual of	utco	omes	-		1			
ILOs		Nethods of teaching/ learning	ſ	Ev:	aluation			
B1. Correlates the facts of clinical pathology with clinical reasoning related to the Hepato-Hepato- pancreatico-biliary and Liver Transplant anesthesia and Intensive care	h Didactic (lectures, seminars, tutorial)		-	-Written and oral examination -Portfolio				
C- Practical skills = 0 D- General Skills								
ILOs	<u>u </u>	Methods teaching/ learning		of	Methods of Evaluation			
D1.Use information technology to manage -C information, access on-line medical information; and su support their own education -\ co		ge -Observati nd supervisio -Written a communic	-Observation and supervision -Written and oral communication		Oral Exam Portfolio			
Interpersonal and Commu	inic	ation Skills						
ILOs		Methods teaching/ learning		of	Methods of Evaluation			
D2. Write a report in common condition ment in A1	ione	ed -Observati supervisio -Written a communic	on a n nd o atior	ind oral า	Oral Exam Portfolio Check list			

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D3. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: First semester

Торіс	Covered ILOs				
	Knowledge A	Intellectual B	Practical skill C	General Skills D	
 Interpretation of liver function tests 	A1	B1	-	D1-D4	
 Coagulation studies 	A1	B1	-	D1-D4	
 Sepsis biomarkers 	A1	B1	-	D1-D4	

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- Written and oral examination
- Portfolio
- ii. Time schedule: At the first semester
- iii. Marks: 40 (25 written + 15 oral)
8. List of references

- Lectures notes
- Essential books, Clinical Pathology Board Review 1st Edition
- Periodicals, Web sites, ... etc: None
- others: None

9. Signatures		
Module Co	oordinator	
Module Coordinator:	Head of the Department:	
Date:	Date:	

Basic Nutrition Module (I-6)

Name of department: Public Health and Community MedicineFaculty of Medicine Assiut University2018-2019

1. Module data

- **4** Module Title: Basic Nutrition
- **Module code:** нва409а
- Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anathesia and Intensive care.
- Total CP= 2 (total hours 60)

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

Department (s) delivering the module: Staff members of Public Health and Community Medicine Department in conjunction with Anesthesia and Surgical Intensive Care as annually approved by both Departments' councils.

- Coordinator (s):
 - Prof. Medhat Araby Khalil saleh
 - Assistant coordinator: Diploma coordinators
- **4** Date last reviewed: 8-5-2019.
- General requirements (prerequisites) if any:
 None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

To provide the students with the required scientific basis of applied clinical nutrition in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive care., that enable them to apply their nutritional skills of problem solving and critical thinking in case studies and cases in real sittings to improve health status of those patients.

	3. Intended learning outcomes	(ILOs):			
	A- Knowledge and understanding				
		Methods of	Methods of		
ILUS		teaching/	Evaluation		
		Learning			
A1. De	escribe Principles of	- Lectures and	-Written and		
-	Effect of chronic liver diseases on nutritional	discussion	oral		
	status and metabolism	 Demonstrati 	examination		
-	Assessment of nutritional status in hepatic	ons			
	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				

B- Intellectual outcomes

ILOs	Methods of	Methods of
	teaching/	Evaluation
	Learning	
B1. Formulate the facts of nutrition with clinical	Didactic (lectures	-Written
reasoning, diagnosis and management of common	seminars tutorial)	and oral
diseases related to the Hepato-pancreatico-biliary	semmars, tatoriary	examination
and Liver Transplant anesthesia and Intensive care.		-Portfolio

C- Practical skills

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
C1. Obtain proper history and examine patients in	-Lectures	OSCE
caring and respectful behaviors.	-Seminars	Portfolio
C2. Apply practical skills in the assessment of	- Practical	- Clinical work in
nutritional status of patients with hepatic-biliary	application	outpatient&
pancreatic diseases.		inpatients clinics

	- Case studies -Individual and group	-Portfolio -Practical Examination
C3. Apply evidence based knowledge to calculate total energy requirements of hepatic patients based on their physiological & nutritional states.	exercises	
C4. Apply different nutrition protocols for short and long term nutrition management of different hepatic- biliary pancreatic diseases.		

D- General Skills Practice-Based Learning and Improvement

ILOs	Methods of	Methods of			
	teaching/	Evaluation			
	learning				
 D1. Identify the relation between clinical nutrition and health status of patients with hepato-biliary pancreatic diseases. D2. Appraises evidence from scientific articles related to nutrition of patients with hepato-biliary pancreatic diseases. 	(Discussion and tutorial) Observation and supervision Written and oral	-Written and oral examination -Portfolio -Critical appraisal			
	communications.				

Interpersona	and	Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D3. Maintain therapeutic and ethically sound relationship with patients.D4. Work effectively with others as a member of a health care team	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list
D5. Council patients and families about the importance of nutrition in patients with liver diseases.		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio
D7. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society		

D8. Demonstrate sensitivity and responsiveness to	
patients' culture, age, gender, and disabilities	

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D9. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: First semester

Торіс	Covered ILOs					
	Knowledge A	Intellectual B	Practical skill C	General Skills D		
 Effect of chronic liver diseases on nutritional status and metabolism 	A1	B1	C1-C4	D1-D9		
 Assessment of nutritional status in hepatic patients 	A1	B1	C1-C4	D1-D9		
- Apply knowledge to calculate the nutrient requirements for hepatic patients	A1	B1	C1-C4	D1-D9		
 Nutritional therapy in NAFLD/NASH 	A1	B1	C1-C4	D1-D9		
 Nutrition in acute liver disease 	A1	B1	C1-C4	D1-D9		
 Nutritional guidelines in liver injuries 	A1	B1	C1-C4	D1-D9		
 Nutrition in compensated liver cirrhosis and End-Stage Liver Disease. 	A1	B1	C1-C4	D1-D9		
 Applied nutrition in patients with pancreatitis (both acute and chronic) 	A1	B1	C1-C4	D1-D9		
 Nutrition in Gallbladder Diseases (stone & Cholestasis) 	A1	B1	C1-C4	D1-D9		
 Nutritional needs and interpretation in surgical patients (perioperative and postoperative) in hepato- 	A1	B1	C1-C4	D1-D9		

biliary system				
- Role of parenteral nutrition	A1	B1	C1-C4	D1-D9
in hepatic patients				

5. Methods of teaching/learning:
 Didactic (lectures, Discussion, Demonstrations, seminars, tutorial) Observation and supervision Case studies and presentations Clinical work in inpatients and outpatients clinics Written & oral communication Senior staff experience
6. Methods of teaching/learning: for students with poor achievements
 Students must be qualified with good intellectual and communication skills but these methods will be used if needed: Extra Didactic (lectures, discussion, seminars, tutorial) according to their needs Extra Laboratory work, practical work, case studies and clinical work in outpatients and inpatient clinics according to their needs
7. Assessment methods:
 i. Assessment tools: Written and oral examination Portfolio Practical assessment Case studies evaluation Critical appraisal of scientific nutritional research articles Individual and group exercises Clinical work in outpatient& inpatients clinics. ii. Time schedule: At the end of the first semester iii. Marks: 40 (25 for written examination (15 oral and Practical)
8. List of references
 Lectures notes Essential books, The Essential Pocket Guide for Clinical Nutrition Second Edition, Oxford handbook of clinical nutrition, Basic nutrition and diet therapy, Food Composition Tables of the National Nutrition Institute Periodicals, Web sites, etc: Journals of clinical nutrition ii. others: American Liver Foundation http://www.liverfoundation.org
9. Signatures
Module Coordinator

Module Coordinator					
Module Coordinator: Prof Dr Medhat Head of the Department: Prof Dr					
Araby Khalil Saleh	Randa Mohamed Shams Eldeen				
Date:	Date:				

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

Name of department: *Infection Control Department*

- Faculty of medicine
- Assiut University
- **2019-2021**

1. Module data

- **Wodule Title:** Basic And Advanced Infection Control In Hepatic Patients
- **Module code:** IPU400B
- **4** Speciality:

Professional Diploma in Hepato-pancreatico-biliary and Liver Transplant anesthesia and Intensive care

Number of ECTS: 2

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

- Department (s) delivering the Module: <u>Infection Control Unit</u>
- Coordinator (s):
 - Principal coordinator: Dr. Esraa Mostafa Ali
 - Assistant coordinator (s) Dr. Asmaa Mohammed Abdelaziz, Dr. Amal Hossny Dr. Ayat Bekhet, Dr. Amina Abdel Al
- Date last reviewed: 1-6-2019
- Students to achieve module ILOs are clarified in the joining Portfolio.

2. Module aims

The student should acquire scientific infection prevention and control facts essential for hepatic patients.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
A1. Illustrate Principles of:	Power point	Test
- Basic of Infection Control.	and Video	evaluation
- Bundles Prevention.		and case
- Control Infection In Liver Transplantation Unit.		studies
A2. Describe details of:	Power point	Test
-Basic Content of Infection Control Module with illustration	and Video	evaluation
of Cores.		and case
- Care VAP Bundle		studies
-Catheter associated Urinary tract infections.		
- SSI bundle.		
- Central line bundles.		
- Solid Organ Transplant.		

B- Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
B1. Correlates the facts of way of infection with clinical	Power point	Test
reasoning, diagnosis and management of common diseases	and Video	evaluation
related to staying in hospital to hepatic patients		and case
		studies

C- Practical skills

Practical: 0 credit point

D- General Skills

Practice-Based Learning and Improvement

0		
ILOs	Methods of	Methods of
	teaching/	Evaluation
	Learning	
D1. Use information technology to manage information,	Case study and	Homework
access on-line medical information; and support their own	calculation of	
education.	rate of H.H.	
	complance	
	- 1 - 1 I	

Interpersonal and Communication Skills							
ILOs	Methods of teaching/ learning	Methods of Evaluation					
D2. Write a report in the conditions mentioned in lecture	Audit	Homework					

about	conditions	mentioned	in	A1	and	A1,A2	with
calcula	tion rate of i	nfection fron	n IC	U.			

Professionalism		
ILOs	Methods of teaching/ learning	Methods of Evaluation
D3 Demonstrate a commitment to ethical principles.	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list

S١	vstems-	Based	Practice
	Jucinis	Duscu	i l'actice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings	Practical audit	Homework
and systems.		

4. Module Contents (topic s/modules/rotation	
Module Matrix	

Time Schedule: First Semester

Торіс	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
	A	В	C	D
Basic of Infection Control.	A1	B1	-	D1-D4
Attendance and effectiveness				
- Bundles Prevention.	A1	B1	-	D1-D4
- Control Infection In Liver	A1	B1	-	D1-D4
Transplantation Unit.				
-Basic Content of Infection	A2	B1	-	D1-D4
Control Module With illustration				
of Cores.				
- Care VAP Bundle	A2	B1	-	D1-D4
Catheter associated Urinary tract	A2	B1	-	D1-D4
infections.				
- SSI bundle.	A2	B1	-	D1-D4
- Solid Organ Transplant.	A2	B1	-	D1-D4

5. Methods of teaching/learning:

- 1. Power point presentation.
- 2. Video.
- 3. Case study.

6. Methods of teaching/learning: for students with poor achievements

1. On job training.

7. Assessment methods:

i. Assessment tools:

- 1. Exam (Written and case study)
- 2. Homework and audit.

ii. Time schedule: At the end of the first semester

iii. Marks: 40 (25 for written exam - 15 for case study).

8. List of references

i. Lectures notes

- Hard copy
- Soft of infection control hand hygiene audit
- ii. Essential books
 - Infection control policy of Egypt
 - GCI infection control policy
- iii. Recommended books
 - APIC
- iv. Periodicals, Web sites, ... etc
 - > Periodicals:
 - https://www.who.int/infection-prevention/en/
 - https://www.cdc.gov/
 - Web sites: -----

v. Others

9. Signatures

Module Coordinator			
Principal Coordinator: Dr. Esraa Mostafa Ali	Head of the Department: Prof. Dr. Hebatallah Gamal Rashed		
Date: Date:			

Statistics and Research Methodology (I-8)

Name of department: Community Medicine Department and Statistic and Insurance Department.

Faculty of Medicine Assiut University 2019-2020

1. Module data

- Module Title: Statistics and Methodology
- Module code: HBA429A#§
- **Specialty: Professional Diploma in** Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
- Total CP= 2 / total marks: 20 / total hours 60

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

Department (s) delivering the Module : Community Medicine Department and Statistic and Insurance Department.

Coordinator (s): Prof. Farag Mohamed Moftah

Dr. Hesham A. Abdalla

Staff members of :

Community Medicine Department.

Statistic and Insurance Department.

- Date last reviewed: -May 2019.
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve module ILOs are clarified in the

joining portfolio.

2. Module Aims

- The student should acquire the skills of data analysis necessary for research purpose in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
- The aim of this Module is to develop students' skills in statistical data analysis as a tool of research methodology, to select the most appropriate statistical techniques, to apply the statistical method using statistical package(SPSS) and to interpret the results of the used statistical methods.

3. Intended learning outcomes (ILOs):						
A- Knowledge and unde	A- Knowledge and understanding					
ILOs	Methods of teaching/ learning	Methods of Evaluation				
 A. A1- Define statistical population – samples. A2- List types of random samples. A3- Define and list types of variables. A4- Describe measurements levels. A5- Recognize types of research questions. A6. Univariate Statistical methods A.7 Multivariate statistical Methods for Associational research questions. 	-Lectures -Case study	Written Exam - Portfolio				

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
 B1- Solve a wide range of problems related to the data analysis in scientific research. B2- Select lines of argument and appropriate judgments in accordance with the data using regression analysis and how to figure out their relation if there any, with applications. B3- Analyze information critically, including published researches or reports using Mathematics and computer science to solve the statistical problems and apply the results in different fields. 	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio

C-Practical skills

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
C1- Use statistical package to manipulate and	-Observation	Oral Exam
analyze medical data.	and supervision	Portfolio
C2- Use sampling software to calculate and select	-Written and	Practical skill
the appropriate sample size.	oral	assesment
C3- Apply the scientific approach to select the	communication	
appropriate statistical method.		

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
D1- Develop Creativity and imagination skills, Self-	-Observation	Oral Exam
assessment ability and Critical thinking and	and supervision	Portfolio
analytic ability.	-Written and	
D2- Use information to Support the ability of	oral	
thinking in the field of statistical probability.	communication	
D3- Think independently, set tasks and solve		
problems on ethical scientific basis using		
Mathematics and computer science.		
D4- Deal with scientific facts and theories to		
analyze and interpret practical data.		

D-General and Transferable Skills

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: First semester Topic **Covered ILOs** Knowledge Intellectual Practical General Skills A B skill C D Basic statistical definitions in A1 A2 _ D1-D4 medicine Sampling methods and A1 A2 D1-D4 -Sample size A brief introduction to SPSS C1 C2 D1-D4 Key terms related to data A3 A4 analysis Selecting the appropriate A4 A5 C3-D1-D4 statistical method for data analysis Interpreting inferential B1 B3 D1-D4 statistics Statistical methods for B1 B3 C3 D1-D4 difference research questions Univariate Statistical methods A 6 C3 D1-D4 B1 B3 for Associational research questions Multivariate statistical A7 B2 C3 D1-D4 Methods for Associational

research questions		
- Multiple Regression		
- Logistic Regression		

 Didactic (lectures, seminars, tutorial) Written & oral communication and discussions to assess general and transferable skills Reports, assignments, exercises, and final written exam to assess knowledge and understanding. Regular oral, practical and written quizzes to assess intellectual skills. <u>6 Methods of teaching/learning: for students with poor achievements</u> Extra Didactic (lectures, seminars, tutorial) according to their needs Extra practical work according to their needs <u>7. Assessment methods:</u> Assessment tools: Practical Assignments Time schedule: At the end of the Module Marks: 10 Written examination Time schedule: At the end of the Module Marks: 30 Lectures notes: There are lectures notes prepared in form of a book Essential books: None Periodicals, Web sites, etc: None Others Recommended books: Statistical methods for practice and research: a guide to data analysis using SPSS by Ajai S Gaur; Sanjaya S Gaur, 2009. Handbook of universite and multiversite data analysis analysis using SPSS by Ajai S Gaur; Sanjaya S Gaur, 2009.
 Written & oral communication and discussions to assess general and transferable skills Reports, assignments, exercises, and final written exam to assess knowledge and understanding. Regular oral, practical and written quizzes to assess intellectual skills. 6 Methods of teaching/learning: for students with poor achievements 1. Extra Didactic (lectures, seminars, tutorial) according to their needs 2. Extra practical work according to their needs 2. Extra practical work according to their needs 7. Assessment methods: i. Assessment tools: Practical Assignments ii. Time schedule: At the end of the Module iii. Marks: 10
transferable skills 3. Reports, assignments, exercises, and final written exam to assess knowledge and understanding. 4. Regular oral, practical and written quizzes to assess intellectual skills. 6 Methods of teaching/learning: for students with poor achievements 1. Extra Didactic (lectures, seminars, tutorial) according to their needs 2. Extra practical work according to their needs 7. Assessment methods: i. Assessment tools: - Practical Assignments ii. Time schedule: At the end of the Module iii. Marks: 10 - Written examination ii. Time schedule: At the end of the Module iii. Marks: 30 8. List of references i. Lectures notes: There are lectures notes prepared in form of a book ii. Essential books: None iii. Periodicals, Web sites, etc: None iv. Others Recommended books: - Statistical methods for practice and research: a guide to data analysis using SPSS by Ajai S Gaur; Sanjaya S Gaur, 2009 Handbook of univariato and multivariate data analysis and interpretation with
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using SPSS by Ajai S Gaur; Sanjaya S Gaur, 2009. Handbook of univariate and multivariate data analysis and interpretation with
Handbook of univariate and multivariate data analysis and interpretation with
TIANUDUK UTUNVANALE AND MULTVANALE UALA ANALYSIS AND INTERPRETATION WITH
SPSS by Robert Ho, 2006.
9. Facilities required for teaching and learning
1. Computer Lab
2. Datashow, screen.
3. White board and colored pens
10. Signatures
Module Coordinator
Dr Head of Department: Prof.
•••••••••
Date: Date:

Evidence based medicine (I-9)

1. Module data

- **4** Module Title: Evidence Based Medicine
- **Module code:** EDU400A
- **4** Speciality: Professional Diploma in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
- Total CP= 1 / total marks : 20 / total hours 30

	Hours for student Workload/Semester				
Credit Points	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%

- Department (s) delivering the Module: Education development center
- Coordinator (s):
 - Module coordinator: Ahmad Makhlouf
- **L** Date last reviewed: 8-5-2019
- General requirements (prerequisites) if any :
 None
- Requirements from the students to achieve Module ILOs are clarified in the joining portfolio.

2. Module Aims

- 1. To intensify the flow of knowledge from academic research to clinical practice.
- 2. Combining interdisciplinary clinical cases with questions of diagnosis and therapy, the Module programme tackles the range of questions that occur when searching for information that allows one to base clinical practice on scientific evidence

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding		
ILOs	Methods of	Methods of
	teaching/	Evaluation
	Learning	
A1. Define evidence based medicine and the	Didactic	Written and
steps of evidence based practice.	Team based	assignment
A2. Recognize the leaking pipeline of evidence and	Journal club	portfolio
explain barriers to transfer evidence in clinical		
practice.		

B- Intellectual outcomes

ILOs	Methods of	Methods of
	teaching/	Evaluation
	Learning	
B1. Critically appraise different types of study	Didactic	Written and
design,	Team based	assignment
B2. Decide whether or not to incorporate the	Journal club	portfolio
research findings into clinical practice		

C- Practical skills

ILOs	Methods	Methods of
	of	Evaluation
	teaching/	
	learning	
C1. Formulate clinical questions and make them	Didactic	Written and
answerable in a scientific way	Practical	assignment
C2. Search for and select relevant literature for	Team	portfolio
scrutinizing and critical appraisal	based	
C3. Evaluate simple numerical results	Journal	
C4. Apply relevant clinical evidence in clinical	club	
practice		

D- General Skills

Practice-Based Learning and Improvement		
ILOs	Methods of teaching/ learning	Methods of Evaluation
D1. Explain basic principles in adult learning	Didactic	Written and
theories in context of EBM teaching	Practical	assignment
D2. Evaluate their own performance	Team based	portfolio
	Journal club	

4. Module contents (Module Matrix)					
Time Schedule: First Part or Se	Time Schedule: First Part or Second part				
Торіс	Covered ILOs				
	Knowledge A	Intellectual B	Practical skills C	General Skills D	
Introduction to Evidence-based Medicine. Posing questions and running searches in PubMed.	A1,A2	B1	C1	D1	
How to search the clinical evidence: More	A2	B1,B2	C1,C2	D1,D2	
How to appraise evidence about interventions	A1,A2	B1,B2	C1-C4	D1,D2	
How to appraise evidence on harm	A1,A2	B1,B2	C1-C4	D1,D2	
How to appraise evidence about diagnostic tests	A1,A2	B1,B2	C1-C4	D1,D2	
How to assess evidence from systematic reviews	A1,A2	B1,B2	C1-C4	D1,D2	

5. Methods of teaching/learning:

- 1. Didactic
- 2. Practical
- 3. Team based
- 4. Journal club

6. Methods of teaching/learning: for students with poor achievements

NA

7. Assessment methods:

i. Assessment tools:

Written assignments

An individual **final exam** in which students apply Module concepts for solving problems. Information from clinical research papers will be presented and students will have to identify PICO questions, critically appraise the validity evidence using the guidelines learned, and assess and analyze the findings reported in the studies.

- ii. Time schedule: At the end of the first semester
- ii. Marks: 20 (10 for written exam(Assignment) and 10 for practical).

8. List of references

i. Lectures notes

PowerPoint hand outs

i. Essential books

Guyatt G, Rennie D, Meade MO, Cook DJ, eds. Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice. 2nd Ed. New York, NY: McGraw-Hill; 2008. This resource is freely available to FIU students and faculty when accessed from campus through the following link: http://www.jamaevidence.com/resource/520. Accessed 3/19/2012.

ii. Recommended books

Straus SE, Glasziou P, Richardson WS, Haynes RB. Evidence-Based Medicine. How to practice and teach EBM. Edinburg: Elsevier Churchill Livingstone, Fourth Edition, 2011.

iv. Periodicals, Web sites, etc

v. Others

9. Signatures	
Module Coordinator:	Head of the Department:
Date:	Date:

Information Technology [1-10]

Name of Department:Electrical Engineering DepartmentFaculty of medicine Assiut University2019-2022

1. Module data

- Module Title: Information Technology
- 🔸 Module code: нва429в§
- Speciality: Professional Diploma Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
- Total CP= 1 / total marks: 20 / total hours 30

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

- Department (s) delivering the Module: Electrical Engineering Department in conjunction with Diploma coordinators.
- **Coordinator (s):**

Staff members of Electrical Engineering Department: Dr. Tarik Kamal Abdelhamid in conjunction with Diploma coordinators.

- Date last reviewed: June 2019.
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve module ILOs are clarified in the joining Portfolio.

2. Module Aims

1- To provide the students with basic and advanced skills in using computer, internet, E-mail, and protection from common security challenges.

2- To enable the students with the formal training to use word processor, Citation Management Tools, PowerPoint, spreadsheet and searching in medical databases.

3. Intended learning outcomes (ILOs):			
A- Knowledg	A- Knowledge and understanding		
ILOs	Methods of teaching/ learning	Methods of Evaluation	
A. Describe Principles of	- Tutorial	- Portfolio	
A1 Computer essentials			
A2 Online essentials			
A3 Word processing			
A4 Spreadsheets			
A5 Presentation			
A6 Citation management tools (mendeley or endnote)			
A7 it security			
A8 Hospital information system (his)			

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
 B1 Apply the essential concepts and skills relating to the use of devices, file creation and management, networks and data security. B2 Design and / or create, modify and prepare presentations using different slide layouts for display and printed distribution on common problems related to his field. B3 Explain how hospital information systems provide information about a patient's health history, Patient's laboratory test information and visit history. 	Didactic (Practical, tutorial)	- Portfolio

C- Practical skills

ILOs	Methods of teaching/	Methods of Evaluation
	learning	
C1- Identify and protect from common security challenges, and operate safely when online	Practical Work	-Assessment of practical skills
C 2-Use the essential concepts and skills		
relating to web browsing, effective		
information search, online communication, e-		

mail and accessing the medical databases.	
C3- Apply practical skills in Using the	
advanced features of word processing	
applications to enhance work, improve	
productivity and save time.	
C4-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.	
C5-Handle a list of references or citations	
quite easily and effectively and thereby save	
on time.	
C6- Use Hospital information system (HIS) to	
allow health care providers to do their jobs	
effectively.	

D- General Skills Practice-Based Learning and Improvement

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
D1-Use information technology to use	Observation	Portfolio
computer, internet, E-mail, protection from	and	
common security challenges, word processor,	supervision	
Citation Management Tools, PowerPoint,		
spreadsheet and searching in medical		
databases.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods Evaluation	of
	-Observation	Portfolio	
D2- Practice the value of team work by acting in	and		
small group	supervision		
D3- Conform adequate cooperation with his/her	-Written and		
colleagues	oral		
D4- Arrange the efforts required to accomplish	communicatio		
the tasks in specified time.	n		
D5- Organize learning time and resources and set priorities			

Professionalism

ILOs	Methods teaching/ learning	of	Methods of Evaluation
D6 Demonstrate the importance of information technology.	Practical a tutorial	and	Assessment of practical

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D 7- Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: First semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Computer essentials	A1	B1	C2-C4	D1-D7
- Online essentials	A2	-	C2	D1-D7
- Word processing	A3	-	C3	D1-D7
- Spreadsheets	A4	-	C4	D1-D7
- Presentation	A5	B2	C2-C4	D1-D7
 Citation management tools (mendeley or endnote) 	A6	-	C5	D1-D7
- It security	A7	-	C1	D1-D7
- Hospital information system (his)	A8	B3	C6	D1-D7

5. Methods of teaching/learning:

1. Didactic (Practical and tutorial)

6. Methods of teaching/learning: for students with poor achievements

3. Extra Didactic (Practical and tutorial) according to their needs

7. Assessment methods:

i. Assessment tools:

-Assessment of practical skills

- Portfolio

ii. Time schedule: At the end of the first semester

iii. Marks: 20

8. List of references

- Lectures notes: None
- Essential books: None
 - Web sites: ekb and others
 - Others: Microsoft windows, Microsoft office application, endnote and Mendeley

9. Signatures		
Module Coordinator		
Module Coordinator: Dr. Tarik kamal abdelhamid	Head of the Department:	
Date:	Date:	

Elective Modules Track

- 1. Hospital Administration
- 2. Medical Ethics

The specification is in a separate book



Specialty Related Anesthesia Sciences

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

Patient monitoring (II-1)

Name of department: Anesthesia and Intensive Care Department Faculty of medicine Assiut University 2019-2020

1. Module data

- Module Title: Patient monitoring
- **Module code:** нва429в
- Specialty: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and intensive care.
- Total CP= 10 / total marks : 200 / total hours 300

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

- Department (s) delivering the Module : Anesthesia and Intensive Care Department.
- Coordinator (s): Staff members of Anesthesia and Intensive Care Department as annually approved by department councils
- **Jate last reviewed: 5/2019.**
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts of monitoring of patient necessary for Hepato-pancreatico-biliary and Liver Transplant Anesthesia and intensive care.

3. Intended learning outcomes (ILOs): A. Knowledge and understanding Methods of Methods of **ILOs** teaching/ **Evaluation** learning A1. Describe Principles of : Didactic; - OSCE and - Hemodynamic monitoring – Invasive and Lectures written exam at Non-invasive hemodynamic monitoring. Seminars the end of the - Arterial line placement (radial and semester. femoral) -Assessment of - Central venous catheterization (femoral, practical skills internal jugular and subclavian veins) -- Portfolio 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 A2. State update and evidence-based Knowledge of different modalities of intraoperative and postoperative monitoring techniques. A3. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to patient monitoring. A4.Mention the basics of quality assurance to ensure good monitoring related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and intensive care.

B. Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
B1. Correlates the facts of relevant basic and clinically supportive sciences with	-Didactic (lectures,	-Written and clinical

clinical reasoning and practice of patient monitoring.	seminars) -Clinical practice rounds	examination. -Portfolio.
	-Senior staff experience	

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
 C1. Perform the following procedures: Application of urinary catheter. Cannulation including Central venous line. Arterial Cannulation. C2. Interpret the following invasive diagnostic procedures: Transesophageal Echocardiography (TEE) Arterial blood gas. Coagulation monitoring including Thromboelastogram (TEG), ROTEM and Sonoclot. Cardiac output monitoring – PiCCO, TOE, Swan-Ganz. Intracranial pressure monitoring 	 -Clinical round with senior staff -Perform under supervision of senior staff. -Clinical rounds and workshops with senior staff. -Perform under supervision of senior staff. 	-Procedure presentation -Portfolio - Checklist
- Intracranial pressure monitoring		

D. General Skills

Practice-Based Learning and Improvement

11.0-	Mathadaaf	Mathada af
ILUS	iviethous of	wethous of
	teaching/	Evaluation
	learning	
D1. Perform practice-based improvement	-Case log	-Procedure/case
activities using a systematic methodology	-Observation	presentation
(audit, logbook)	and	- Portfolios
	supervision	
	-Written & oral	
	communication	
D2. Appraises evidence from scientific studies	-Journal clubs	
(journal club)	- Discussions in	
	seminars and	
	clinical rounds	
D3. Conduct epidemiological Studies and		

surveys.	
D4. Perform data management including data	
entry and analysis.	
D5. Facilitate learning of junior students and	
other health care professionals.	

Interpersonal and Communication Skills

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
D6. Maintain therapeutic and ethically sound	- Simulations	- Global rating
relationship with patients.	- Clinical	-
	round	Procedure/case
	- Seminars	presentation
	- Lectures	- Portfolios
	- Case	- Checklist
	presentation	
D7 Elicit information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D8 Provide information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D9. Work effectively with others as a member of a	- Senior staff	
health care team or other professional group.	experience	
Professionalism		

ILOs	Methods of teaching/ learning	Methods of Evaluation
10. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	- OSCE - Patient survey
D11. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		-360o global rating
D12. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		- OSCE - 360o global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D13. Work effectively in relevant health care delivery	Observation	- 360o global
settings and systems.	-Senior staff	rating
	experience	
D14. Practice cost-effective health care and resource		-Checklist
allocation that does not compromise quality of care.		evaluation of
		live or
		recorded
		performance
D15. Assist patients in dealing with system		-360o global
complexities.		rating
		-Patient
		survey

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: Second semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Hemodynamic monitoring – Invasive and Non-invasive hemodynamic monitoring.	A1-A4	B1	C1,C2	D1-D15
Arterial line placement (radial and femoral)	A1-A4	B1	C1	D1-D15
Central venous catheterization (femoral, internal jugular and subclavian veins) – Ultrasound guided vascular access	A1-A4	B1	C1,C2	D1-D15
Right heart catheterization (pulmonary artery (catheter placement	A1-A4	B1	C2	D1-D15
Transesophageal Echocardiography (TEE)	A1-A4	B1	C2	D1-D15
Arterial blood gas analysis	A1-A4	B1	C1,C2	D1-D15

and interpretation				
Coagulation monitoring	A1-A4	B1	C2	D1-D15
including				
Thromboelastogram (TEG),				
ROTEM and Sonoclot				
Cardiac output monitoring	A1-A4	B1	C2	D1-D15
– PiCCO, TOE, Swan-Ganz				
Intracranial pressure	A1-A4	B1	C2	D1-D15
monitoring				

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 1. Written & oral communication
- 2. Clinical practice rounds
- 3. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra clinical rounds according to their needs

7. Assessment methods:

i. Assessment tools:

- Written examination
- OSCE
- Portfolio and Logbook
- ii. Time schedule: At the end of second semester

iii. Marks: 200 (120 Written Oral 60, Practical 20)

8. List of references

- Lectures notes
- Essential books: Miller's Anesthesia 8th Edition
- Periodicals, Web sites, ... etc: None
- Others: None

9. Signatures		
Module Coordinator		
Module Coordinator:	Head of the Department:	
Date:	Date:	

Perioperative Emergencies Module (II-2)

Name of department: -Anesthesia and Intensive Care Department Faculty of medicine Assiut University 2019-2021

1. Module data

- Module Title: Perioperative Emergencies
- **4 Module code:** HBA429C
- Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anathesia and intensive care.
- Total CP= 8 / total marks : 160 / total hours 240

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

- **Department (s) delivering the Module : Anesthesia department**
- Coordinator (s): Staff members of Anesthesia and Surgical Intensive Care Department as annually approved by department's council.
- **Date last reviewed: 5 2019.**
- General requirements (prerequisites) if any: None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts about perioperative emergencies necessary for the anesthesia and intensive care management for Hepato-pancreatico-biliary and Liver Transplant Anesthesia.

- To make the students able to deal with medical emergencies safely and effectively as regard their investigations and management.

3. Intended learning outcomes (ILOs):					
A. Knowledge and ur	A. Knowledge and understanding				
	Methods of	Methods of			
llos	teaching/	Evaluation			
	learning				
A1. Describe Principles of	- Didactic	-Written and oral			
- Transfusion medicine	- Lectures	examination			
- Shock states; Cardiopulmonary resuscitation	- Seminars	- Portfolio			
- Cardiac emergencies and their management					
 Advanced cardiac life support 					
- Management of the difficult airway					

B. Intellectual outcomes

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
B1. Correlates the facts of General Medical Sciences with anesthesia and intensive care management related to the Hepato-pancreatico- biliary and Liver Transplant Anesthesia.	- Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio
	- Clinical practice rounds - Senior staff	
	experience	

C. Practical skills

ILOs	Methods of	Methods
	teaching/	of
	learning	Evaluation
C1. Identify Appropriately the need for a fluid bolus	-Didactic;	- Portfolio
in an acutely unwell patient	-Lectures	- Checklist
	-Clinical rounds	
	with senior staff	
C2. Select appropriate fluid and volumes during	-Didactic;	- Portfolio
administration of a fluid bolus	-Lectures	- Checklist
	-Clinical rounds	
	with senior staff	
C3. Identify effectively the response to a fluid bolus,	-Didactic;	- Portfolio
and making appropriate clinical decisions based on	-Lectures	- Checklist
this response	-Clinical rounds	
	with senior staff	
C4. Document the response to any fluid challenge	-Didactic;	- Portfolio

administered	-Lectures	- Checklist
	-Clinical rounds	
	with senior staff	
C5. Recognize the significance of major physiological	-Didactic;	- Portfolio
perturbations that define shock.	-Lectures	- Checklist
	-Clinical rounds	
	with senior staff	
C6. Identify rapidly the collapsed patient in terms of	-Didactic;	- Portfolio
ABC, airway, breathing and circulation.	-Lectures	- Checklist
	-Clinical rounds	
	with senior staff	
C7. Perform the following	-Didactic;	- Portfolio
• basic life support competently as defined by	-Lectures	- Checklist
Resuscitation Council (UK): effective chest	-Clinical rounds	
compressions, airway manoeuvres, bag and mask	with senior staff	
ventilation	-Seminars	
• competently further steps in advanced life	-Direct	
support: IV drugs: safe DC shocks when indicated:	observation of	
central line insertion, external pacing,	procedural skills	
endotracheal drug administration, identification		
and rectification of reversible causes of cardiac		
arrest		
D8. Display satisfactory proficiency in performing a	-Didactic:	-Portfolio
relevant clinical examination and assessment of the	-Lectures	- Checklist
airway and dentition	-Clinical rounds	
	with senior staff	
	-Seminars	
	Direct	
	observation of	
	procedural skills	
C10. Identify the following:	-Didactic:	-Portfolio
- Normal appearances and significant	-Lectures	- Checklist
abnormalities in radiographs including:	-Clinical rounds	
• Cervical spine, chest	with senior staff	
• Head CT and MRI showing clear abnormalities	Seminars	
relevant to the airway		
- Reliably the level of supervision they will require		
C12. Display	-Didactic:	-Portfolio
•Effective pre-oxygenation, including correct use of	-Lectures	- Checklist
the mask, head position and clear explanation to the	-Clinical rounds	
patient	with senior staff	
• Optimal patient position for airway management	-Case Based	

including head tilt, chin lift, jaw thrust	Discussion	
 Managing airway with mask and 	(CBD)	
oral/nasopharyngeal airways	-Direct	
 Hand ventilation with bag and mask [including self- 	observation of	
inflating bag]	procedural skills	
• Ability to insert and confirmation of placement of a	- Simulation	
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 the technique of cricoid pressure 		
•Correct use of advanced airway techniques,		
including but not limited to: Proseal, LMA		
supreme, I Gel		
•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 ventilation		
 Surgical cricothyrotomy 		

D. General Skills

Practice-Based Learning and Improvement

ILOs	Methods of	Methods
	teaching/	of
	learning	Evaluation
D1. Use information technology to manage	e -Observation and	Oral Exam
information, access on-line medical information; an	d supervision	Portfolio
support their own education	-Written and oral	
	communication	

Interpersonal and Communication Skills

ILOs			Methods teaching/ learning	of	Methods of Evaluation			
D2.	Maintain	therapeutic	and	ethically	sound	-Observation	and	Oral Exam
relationship with patients.				supervision		Portfolio		
						-Written and	oral	Check list

		communicatio	n	
	Professionalism			
ILOs		Methods teaching/	of	Methods of Evaluation

	learning	
D3. Demonstrate a commitment to ethical principles	Senior Staf	Oral Exam
	Experience	Portfolio

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topics/modules/rotation) Module Matrix

Time Schedule: Second semester

Торіс		Covered ILOs					
		Knowledge A	Intellectual B	Practical skill C	General Skills D		
-	Transfusion medicine	A1	B1	A-D	D1-D4		
I	Shock states; Cardiopulmonary resuscitation	A1	B1	A-F	D1-D4		
-	Cardiac emergencies and their management	A1	B1	A-H	D1-D4		
-	Advanced cardiac life support	A1	B1	Н	D1-D4		
-	Management of the difficult airway	A1	B1	I-S	D1-D4		

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience
6. Methods of teaching/learning: for students with poor achievements

1. Extra Didactic (lectures, seminars, tutorial) according to their needs

2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- Written and oral examination
- Portfolio

ii. Time schedule: At the end of the second semester

iii. Marks: 160 (90 Written, 50 oral, 20 Practical)

8. List of references

- Lectures notes

Essential books

Paul L Marino: The ICU Book (3rd Edition ,2007)

Frederic S. Bongard: Current Diagnosis & Treatment in critical care (3rd edition, 2008)

Roberts and Hedges' Clinical Procedures in Emergency Medicine and - Acute Care by James R. Roberts MD FACEP FAAEM FACMT(7th Edition, 2018)

- Periodicals, Web sites, ... etc: None
- Others: None

9. Signatures		
Module Coordinator		
Module Coordinator:	Head of the Department:	
Date: Date:		

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

Name of department: Anesthesia and Surgical Intensive Care Department Faculty of medicine Assiut University

1. Module data

- **Wodule Title: Anesthetic Management of Hepatobiliary Surgeries Part 1**
- **Module code:** нва429D
- Specialty: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and intensive care.
- Total CP= 10 / total marks: 200 / total hours 300

	Hours for student Workload/Semester					
Credit Points	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%

- Department (s) delivering the module: Anesthesia and Intensive Care Department.
- Coordinator (s): Staff members of Anesthesia and Intensive Care Department as annually approved by department's council
- **4** Date last reviewed: 5/2019.
- General requirements (prerequisites) if any : None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire a high level of clinical skills in addition to update medical knowledge as well as clinical experience and competence in the area of anesthesia of Hepatobiliary surgeries.

-To Provide candidates with fundamental knowledge of Anesthesia as regards; dealing with patients in operative room and training skills of different anesthetic techniques.

3. Intended learning outcomes (ILOs):				
A. Knowledge and understanding				
ILOs	Methods of teaching/	Methods of Evaluation		
	Learning			
A1. Describe Principles of :	Didactic;	- OSCE and		
Anesthesia for patients with	Lectures	written exam at		
hepatocellular disease – Risk assessment	Seminars	the end of the		
and perioperative management	Training in the	semester.		
Anesthesia for endoscopic procedures in	operation	-Assessment of		
cirrhotic patients and for other procedures	room	practical skills		
done by interventional radiology	Senior Staff	- Portfolio		
Anesthetic management of Liver	Experience			
resections – including complex resections				
with vascular reconstruction				
Liver transplantation (Introduction).				
A2. State update and evidence based				
Knowledge of different modalities in				
practice of anesthesia				
A3. Mention the basics of quality assurance				
to ensure good clinical practice in the				
field of Anesthesia				
A4. State the impact of common health				
problems in the field of anesthesia on				
the society and how good clinical				
practice improves these problems.				

B. Intellectual outcomes

	D. Intellectual batternes				
ILOs	Methods of teaching/ Learning	Methods of Evaluation			
B1. Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning and management of problems in Anesthetic Management of Hepatobiliary Surgeries part 1	-Didactic (lectures, seminars) -Clinical practice rounds -Senior staff experience	-Written and clinical examination.			
B2. Demonstrate an investigatory and analytic thinking approach (problem					

solving) to common clinical situations	
related to Anesthetic Management of	
Hepatobiliary Surgeries part 1	
B3. Design and /or present a case or review	
(through seminars) in one or more of	
common clinical problems relevant to	
Anesthetic Management of Hepatobiliary	
Surgeries part 1	
B4. Formulate management plans and	
alternative decisions in different situations	
in the field of Anesthetic Management of	
Hepatobiliary Surgeries part 1	

C. Practical skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
 C1. Obtain proper history and examine patients in caring and respectful behaviors. C2. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment for common conditions related to Anesthesia. C3. Carry out patient management plans for common conditions mentioned in A1 C4. Use information technology to support 	-Clinical round with senior staff -Perform under supervision of senior staff. -Clinical rounds and workshops with senior staff. -Perform under	-Procedure presentation -Portofilo - Checklist
 patient care decisions and patient education in common clinical situations related to common conditions mentioned in A1. C5. Perform competently non-invasive and invasive procedures considered essential for the Anesthesia of common conditions mentioned in A1 C6. Provide health care services aimed at proventing health problems related to 	supervision of senior staff.	
Anesthesia. C7. Provide patient-focused care in common conditions related to Anesthesia, while		

 working with health care professionals, including those from other disciplines including: Hepatobiliary and Liver transplant Surgeons Specialists of Endoscopy Interventional Radiologist. C8. Write competently all forms of patient charts and sheets including reports evaluating these charts (Write a consultation note Inform patients of a consultation patient of a consultation patients of a consultation p	
charts and sheets including reports evaluating these charts (Write a	
consultation note, Inform patients of a diagnosis and therapeutic plan,	
completing and maintaining medical records)	

D. General Skills

Practice-Based Learning and Improvement				
ILOs	Methods of	Methods of		
	teaching/	Evaluation		
	Learning			
D1. Perform practice-based improvement	-Case log	-Procedure/case		
activities using a systematic	-Observation	presentation		
methodology(audit, logbook)	and	- Portfolio		
	supervision			
	-Written & oral			
	communication			
D2. Appraises evidence from scientific	-Journal clubs			
studies(journal club)	- Discussions in			
	seminars and			
	clinical rounds			
D3. Conduct epidemiological Studies and				
surveys.				
D4. Perform data management including data				
entry and analysis.				
D5. Facilitate learning of junior students and				
other health care professionals.				

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6. Maintain therapeutic and ethically sound relationship with patients.	 Simulations Clinical round 	- Global rating -

	- Seminars	Procedure/case
	- Lectures	presentation
	- Case	Portfolio
	presentation	- Checklist
D7. Elicit information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D8 Provide information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D9. Work effectively with others as a member of	- Senior staff	
a health care team or other professional group.	experience	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D10. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	- Objective structured clinical examination - Patient survey
D11. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		-360o global rating
D12. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		 Objective structured clinical examination 3600 global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D13. Work effectively in relevant health care delivery settings and systems.	- Observation -Senior staff experience	- 360o global rating
D14. Practice cost-effective health care and resource allocation that does not compromise quality of care.		-Checklist evaluation of live or recorded

	performance
D15. Assist patients in dealing with system complexities.	-360o global rating -Patient survey

4. Module contents (topic s/modules/rotation) Module Matrix

Time Schedule: Second semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Anesthesia for patients with hepatocellular disease	A1-A4	B1-B4	C1-C8	D1-D15
Anesthesia for endoscopic procedures in cirrhotic patients and for other procedures done by interventional radiology	A1-A4	B1-B4	C1-C8	D1-D15
Anesthetic management of Liver resections – including complex resections with vascular reconstruction	A1-A4	B1-B4	C1-C8	D1-D15
Introduction to Liver Transplant Surgery	A1-A4	B1-B4	C1-C8	D1-D15

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Clinical practice rounds
- 5. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra clinical rounds according to their needs

7. Assessment methods:

i. Assessment tools:

- **1.** Written examination
- **2.** OSCE/OSPE
- **3.** Portfolio and Logbook

ii. Time schedule: At the end of the second semester

iii. Marks: 200 (120 written + 80 oral and practical)

8. List of references

- Lectures notes
- Essential books:

Miller's Anesthesia 8th edition

- -Periodicals, Web sites, ... etc.: None
- Others: None

9. Signatures		
Module C	oordinator	
Module Coordinator:	Head of the Department:	
Date:	Date:	

Preanesthetic Evaluation module (II-4)

Name of department: Anesthesia and Surgical Intensive Care Faculty of medicine Assiut University 2019-2021

1. Module data

- **4** Module Title: Preanesthetic evaluation
- **Wodule code:** HBA429E

4 Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and intensive care.

Wumber of ECTS: 2

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

- Department (s) delivering the Module: Anesthesia and Surgical Intensive Care
- Coordinator (s): Staff members of Anesthesia and Surgical Intensive Care as approved by Department's council.
- **4** Date last reviewed: April 2019.
- **4** General requirements (prerequisites) if any: None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

- 1. The student should acquire the facts of Preoperative assessment and evaluation of a liver transplant recipient.
- 2. Provide candidates with fundamental knowledge of dealing with patients during pre-operative period.
- 3. Learn the Work up of patients for transplantation Preoperative Evaluation, discussion in the multidisciplinary listing meeting

3. Intended learning outcomes (ILOs):

A. Knowledge and understanding

0	Methods of	Methods of
ILOs	teaching/	Evaluation
	learning	LValuation
A4 Describe Driveinles of		
AL Describe Principles of	-Lectures	-written
- History taking.	- Anesthesia clinic	and oral
- Detailed evaluation of cardiovascular function.		examinatio
 Detailed evaluation of physiological and 		n
functional reserve.		- Portfolio
 Guidelines for preoperative laboratory and 		
clinical investigations.		
 Airway assessment. 		
- Perioperative management of anticoagulants.		
A2. 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- Pre operative testing		

B. Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
B1. Correlates the findings during preoperative evaluation with clinical reasoning, diagnosis and management of anesthesia related risks.	Didactic (lectures, seminars)	-Written and oral examination -Portfolio

C. Practical skills

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
C1. Obtain proper history and examine patients in caring	-Didactic;	OSCE
and respectful behaviors in clinical diseases and	-Lectures	Portfolio
common condition related to anesthesia.	-Clinical rounds	- MCQ exam
	-Seminars	
	-Clinical	
	rotations	

 C2. Interpret diagnostic procedures and appropriate Lab investigations. 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 	-Observation and supervision -anesthesia clinic with senior staff. Written and oral communication	Oral Exam Portfolio
 Evaluation C3. Prescribe the following non invasive/invasive therapeutic procedures: Perioperative management of anticoagulants. 	Clinical round with senior staff	-Procedure presentation - Portfolio - Chick list
C4. Carry out patient management plans for common conditions related to conditions mentioned in A1	Clinical round with senior staff	
C5 Use information technology to support patient care decisions and patient education in common clinical situations related to Preanesthetic evaluation.		
C6. Provide health care services aimed at preventing health problems related to Preanethetic evaluation:. - Hazards of anesthesia and risk of surgery .		
 C7. Provide patient-focused care in common conditions related Preanesthetic evaluation while working with health care professionals, including those from other disciplines like: Hepatobiliary pancreatic and liver transplant Medicine Radiology. Chest Department. Cardiology Department. 		
C8.Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)		

D. General Skills Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
D1. Perform practice-based improvement activities using a systematic methodology (audit, Portofolio)	-Observation and supervision -anesthesia clinic with senior staff. Written and oral communication	Oral Exam Portfolio
D2. Appraises evidence from scientific studies(journal club)		
D3. Facilitate learning of junior students and other health care professionals.		

Interpersonal and Communication	on Skills	
ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
D4. Maintain therapeutic and ethically sound	-Observation and	Oral Exam
relationship with patients.	supervision	Portfolio
D5. Elicit information using effective nonverbal,	-Written and oral	Check list
explanatory, questioning, and writing skills.	communication	
D6. Work effectively with others as a member of a		
health care team or other professional group.		
D7.Council patients and families about:		
 Anesthesia related risk 		
 Perioperative complications 		
 Perioperative medication management. 		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D8. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio
D9. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D10. Work effectively in relevant health care delivery	-Observation	360o global
settings and systems.	-Senior staff	rating
	experience	
D11. Practice cost-effective health care and resource		1. Check list
allocation that does not compromise quality of care.		evaluation
		of live or
		recorded
		performance

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: Second semester Topic **Covered ILOs** Knowledge Intellectual Practical General Α B skill Skills D C Clinical evaluation: C1-C8 D1-D11 A1 B1 - Medical history and review of systems. - Anesthesia directed physical examination. D1-D11 **Risk assessment:** A2 B1 C1-C8 1- Patient risk factors - ASA physical status - Functional status - Biomarkers 2- Surgical risk 3- Risk assessment tools. Preoperative testing. C1-C8 D1-D11 A2 B1 Medication management. A2 B1 C1-C8 D1-D11 Consent and decision making. A2 B1 C1-C8 D1-D11

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience
- 5. Anesthesia and pretransplant clinic.

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- 1. Written and oral examination
- 2. Portfolio
- 3. OSCE/OSPE
- ii. Time schedule: At the end of the second semester
- iii. Marks: 40 (20 written and 20 oral)

8. List of references

- Lectures notes
- Essential books
 - Miller's Anesthesia 8th Edition
- Periodicals, Web sites, ... etc: None
- others: None

9. Signatures		
Module Coordinator		
Module Coordinator:	Head of the Department:	
Date:	Date:	



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)

Name of Department: Anesthesia and Surgical Intensive Care Faculty of medicine - Assiut University (2019-2021).

1. Module data

- **4** Module Title: Liver Related Medical Sciences.
- **Wodule code:** HBA429F
- Speciallty: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- Number of ECTS: 5

	Student Workload/Semester (15 weeks)					
Credit Points	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	60	-	60	-	150 H
Percentage%	20%	40%	-	40%	_	100%

- Department (s) delivering the Module: Anesthesia and Surgical Intensive Care Department.
- Coordinator (s):
- Staff members of Anesthesia and Surgical Intensive Care Department.
- Date last reviewed: May 2019.
- General requirements (prerequisites) if any: None
- Requirements for the students to achieve module ILOs are clarified in the joining Portfolio.

2. Module Aims

1. To enable candidates to update medical knowledge as well as clinical experience and competence in the area of Liver Related Medical Sciences.

2. Provide candidates with fundamental knowledge and skills of dealing with critically ill patients with problems in Liver Related Medical Sciences.

3-To give opportunities to evaluate and manage a broad variety of problems related to Hepatology.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

	Mothoda of	Mathada of
	tooching/	Evaluation
	Learning/	
	Didactic	MCO
A1. Describe the etiology, clinical picture,		- IVICU
diagnosis and management of the	-Lectures	-Oral and
following diseases and clinical conditions:	-Cillical rounus	
 Acute on chronic liver failure. 	-Seminars	written
 Hepatopulmonary syndrome. 	-Clinical	
 Portopulmonary hypertension. 	TOLALIONS	-USCE. Dortfolio
 Vascular diseases of the liver (portal, 		POLITONO
splenic, mesentric vein thrombosis, budd-		
chiari syndrome, veno-occlusive disease)		
- Cirrhotic cardiomyopathy.		
A2. Mention the principles of:		
- 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		
A3. State update and evidence based		
Knowledge of :		
- Acute on top of chronic liver failure.		
- Guidelines in the management of portal		
hypertension.		
A4. Memorize the facts and principles of the		
relevant basic and clinically supportive		
sciences related to hepatobiliary		
anesthesia.		
A5. Mention the basic ethical and medicolegal		
principles relevant to the hepatobiliary		
anesthesia.		
A6. Mention the basics of quality assurance to		
ensure good clinical care in hepatobiliary		
anesthesia.		

A7. Mention the ethical and scientific	
principles of medical research	
A8. State the impact of common health	
problems in the field of Liver Related	
Medical Sciences on the society and how	
good clinical practices improve these	
problems.	

B- Intellectual outcomes

Methods of	Methods of
teaching/	Evaluation
Learning	
Clinical	Procedure/case
rounds	presentation
Senior staff	- Portfolio
experience	
•	
	Methods of teaching/ Learning Clinical rounds Senior staff experience

C- Practical skills (Patient Care)

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
C1. Obtain proper history and examine patients	-Didactic;	OSCE
in caring and respectful behaviors.	-Lectures	Portfolio
	-Clinical	- MCQ
	rounds	exam
	-Seminars	
	-Clinical	
	rotations	
C2. Order Routine appropriate Lab investigations	Clinical round	-Procedure
related to conditions mentioned in A1.	with senior	presentation

	staff	Portfolio
	Observation	- Chick lists
	Post graduate	
	teaching	
	Hand on	
	workshops	
C3. Interpret the following noninvasive/invasive	Clinical round	Procedure
diagnostic procedures	with senior	presentation
-Abdominal Ultrasonography and	staff	Portfolio
Doppler.		- Chick list
-Liver function testing.		
C4. Prescribe the following noninvasive/invasive	Clinical round	-Procedure
therapeutic procedures:	with senior	presentation
-Prescribe proper treatment for conditions in A1	staff	- Portfolio
		- Chick list
- Anticoagulants in vascular liver disease.		
C5. Carry out patient management plans for	Clinical round	
Liver Related Medical Sciences related to	with senior	
anesthesia.	staff	
C6. Use information technology to support		
patient care decisions and patient		
education in Liver Related Medical Sciences		
Anesthesia.		
C7. Provide health care services aimed at		
preventing health problems caused by		
Anesthesia in Liver Related Medical Sciences.		
C8. Provide patient-focused care in common		
conditions in Liver Related Medical Sciences		
Anethesia, while working with health care		
professionals, including those from other		
disciplines like:		
- Hepatobiliary pancreatic and liver		
transplant surgery.		
- Radiology.		
- Hepatology.		
C9. Write competently all forms of patient charts		
and sheets including reports evaluating these		
charts and sheets (Write a consultation note,		
Inform patients of a diagnosis and therapeutic		
plan, completing and maintaining medical		
records)		

D- General skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
D1. Perform practice-based improvement activities using a systematic methodology (audit, Portofolio)	-Case log -Observation and supervision -Written & oral communication	Procedure/case presentation - Portfolios
D2. Appraises evidence from scientific studies(journal club)	-Journal clubs - Discussions in seminars and clinical rounds	
D3. Conduct epidemiological Studies and surveys.D4. Perform data management including data entry and analysis.		
D5. Facilitate learning of junior students and other health care professionals.	Clinical rounds Senior staff experience	

Interpersonal and Communication Skills

ILOs	Methods of teaching/	Methods of Evaluation
	learning	
D6. Maintain therapeutic and ethically sound	Simulations	Global rating
relationship with patients.	Clinical round	Procedure/case
	Seminars	presentation
	Lectures	Portfolios
	Case	Chick list
	presentation	
	Hand on	
	workshops	
D7. Elicit information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D8. Provide information using effective		
nonverbal, explanatory, questioning, and		
writing skills.		

D9. Work effectively with others as a member		
of a health care team or other professional		
group.		
D10. Present a case in in common problems	Clinical round	
related to Liver Related Medical Sciences.	Seminars	
D11 .Write a report	Senior staff	
 Patients' anesthetic sheet reports 	experience	
 ABGs reports 		
D12. Council patients and families about	Clinical round	
 Alternative of anesthetic procedures 	with senior	
 Postoperative care of surgical patients 	staff	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D13. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience Case taking	 Objective structured clinical examination Patient survey
D14. Demonstrate a commitment to ethical principles, including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		1. 360o global rating
D15. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		 Objective structured clinical examination 3600 global rating

Systems-Based Practice				
ILOs	Methods of teaching/ learning	Methods of Evaluation		
D16. Work effectively in relevant health care delivery settings and systems.	Observation Senior staff experience	1. 360o global rating		
D17. Practice cost-effective health care and resource allocation that does not compromise quality of care.		1. Check list evaluation of live or recorded		

	performance
D18. Assist patients in dealing with system complexities.	 3600 global rating Patient survey

4. Module contents (topics/modules/rotation) Module Matrix

Time Schedule: Third semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
 Acute on top of chronic liver Failure 	A1,A3,A4-A9	B1-B4	C1-C9	D1-D19
 Hepatopulmonary syndrome. 	A1, A4-A9	B1-B4	C1-C9	D1-D19
 Portopulmonary hypertention 	A1, A4-A9	B1-B4	C1-C9	D1-D19
 Cirrhotic Cardiomyopathy 	A1, A4-A9	B1-B4	C1-C9	D1-D19
 Vascular diseases of the liver. (portal, splenic, mesentric vein thrombosis, budd chiari syndrome, veno occlusive disease) 	A1,A3,A4-A9	B1-B4	C1-C9	D1-D19
- Blood diseases and the liver.	A2, A4-A9	B1-B4	C1-C9	D1-D19
- Liver and Kidney.	A2, A4-A9	B1-B4	C1-C9	D1-D19
 liver support devices and implications 	A2, A4-A9	B1-B4	-	D1-D19

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication

- 4. Senior staff experience
- 5. Workshops and conference
- 6. Clinical rounds
- 7. Clinical rotation
- 8. Postgraduate teaching
- 9. Outpatient
- 10.Inpatient
- 11.Case presentation

6. Methods of teaching/learning: for students with poor achievements

- **1**. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra training work according to their needs

7. Assessment methods:

i. Assessment tools:

- 1. Written and clinical, oral examination
- 2. Portfolio
- 3. Objective structure clinical examination (OSCE)
- 4. Objective structure practical examination (OSPE)
- 5. Check list evaluation of live or recorded performance
- ii. Time schedule: At the end of the third semester

iii. Marks: 100 (60 written + 40 oral and practical)

8. List of references

i. Lectures notes

ii. Essential books

Miller

iii.Recommended books:

- Yamda's Textbook of Gastroenterology, 2 volume set, 6th Edition, 2015
- Sherlock's Diseases of the Liver and Biliary System, 13th Edition, 2018.
- Zakim and Boyer's Hepatology: A Textbook of Liver Disease, 7th Edition, 2017
- Sleisenger and Fordtran's Gastrointestinal and Liver Disease 2 volume 10th Edition. 2015

IV-Periodicals, Web sites, ... etc

EASL (European Association for Study of Liver Diseases).

AASLD (American Association for Study Liver Diseases).

v. Others: None.

9. Signatures

Module Coordinator		
Module Coordinator:	Head of the Departments:	
Date: May 2019	Date: May 2019	

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

Name of department: Anesthesia and Surgical Intensive Care Department Faculty of medicine Assiut University 2019-2021

1. Module data

4 Module Title: Anesthetic Management of Hepatobiliary Surgeries, Part 2

- **Module code:** HBA429G
- Specialty: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- Total CP= 10 / total marks : 200 / total hours 300

	Hours for student Workload/Semester					
Credit Points	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%

- Department (s) delivering the Module: Anesthesia and Intensive Care Department.
- Coordinator (s): Staff members of Anesthesia and Intensive Care Department as annually approved by department's council.
- Date last reviewed: May 2019.
- General requirements (prerequisites) if any: None
- Requirements from the students to achieve Module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire a high level of clinical skills in addition to update medical knowledge as well as clinical experience and competence in the area of anesthesia of Hepatobiliary surgeries.

-To Provide candidates with fundamental knowledge of Anesthesia as regards; dealing with patients in operative room and training skills of different anesthetic techniques.

-To Enable candidates to start professional careers as specialists in Egypt but recognized abroad.

3. Intended learning outcomes (ILOs):				
A. Knowledge and understanding				
ILOs	Methods of teaching/ Learning	Methods of Evaluation		
A1. Describe Principles of :	Didactic; Lectures	- OSCE and		
Anesthetic management of	Seminars	written exam		
Hepaticojejunostomy		at the end of		
Anesthetic management of Whipples		the semester.		
procedure		-Assessment of		
Anesthetic management of		practical skills		
Portosystemic shunt operations		- Portfolio		
Anesthetic management of Biliary atresia				
A2. State update and evidence based				
Knowledge of different modalities in				
practice of Anesthetic Management of				
Hepatobiliary Surgeries, Part 2.				
A3. State the impact of common health				
problems in the field of Anesthetic				
Management of Hepatobiliary Surgeries,				
Part 2.on the society and how good clinical				
practice improves these problems.				
A4. Mention the basics of quality assurance				
to ensure good clinical practice in the				
field of Anesthesia				

B. Intellectual outcomes

ILOs	Methods of	Methods of		
	teaching/	Evaluation		
	learning			
B1. Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning and management of problems in practice of Anesthetic Management of Hepatobiliary Surgeries, Part 2.	-Didactic (lectures, seminars) -Clinical practice rounds -Senior staff	-Written and clinical examination. -Portfolio		
	experience			
B2. Demonstrate an investigatory and				
analytic thinking approach (problem				
solving) to common clinical situations				
related to Anesthetic Management of				

Hepatobiliary Surgeries, Part 2.	
B3. Design and /or present a case or review	
(through seminars) in one or more of	
common clinical problems relevant to the	
Anesthetic Management of Hepatobiliary	
Surgeries, Part 2.	
B4. Formulate management plans and	
alternative decisions in different situations	
in the field of the Anesthetic Management	
of Hepatobiliary Surgeries, Part 2.	

C. Pract	ical skills	
ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
C1. Obtain proper history and examine	-Clinical round with	-Procedure
patients in caring and respectful	senior staff	presentation
behaviors.	Dorform under	-portfolio
C2. Make informed decisions about	-Periorini under	- Checklist
diagnostic and therapeutic interventions	supervision of semior	
based on patient information and	Stall.	
preferences, up-to-date scientific evidence,	-Clinical rounds and	
and clinical judgment for common	workshops with	
conditions related to Anesthetic	senior staff.	
Management of Hepatobiliary Surgeries,	-Perform under	
Part 2.	supervision of senior	
C3. Carry out patient management plans for	staff.	
Common conditions related to Anesthetic		
Part 2		
CA Use information technology to support		
nation care decisions and nations education		
in common clinical situations related to		
Anesthetic Management of Henatohiliary		
Surgeries Part 2		
C5 Perform competently non-invasive and		
invasive procedures considered essential for		
the Anesthetic Management of		
Hepatobiliary Surgeries, Part 2.		
C6. Provide health care services aimed at		
preventing health problems related to		
Anesthetic Management of Hepatobiliary		
Surgeries, Part 2.		

C7.	Provide patient-focused care in common	
	conditions related to Anesthesia, while	
	working with health care professionals,	
	including those from other disciplines	
C8.	Write competently all forms of patient	
	charts and sheets including reports	
	evaluating these charts and sheets	

D. General Skills Practice-Based Learning and Improvement

ll Os	Methods of	Methods of
	teaching/	Evaluation
	learning	
D1 Perform practice-based improvement	-Case log	-
activities using a systematic	-Observation and	Procedure/case
methodology(audit, lportfolio)	supervision	presentation
	-Written & oral	- Portfolio
	communication	
D2. Appraises evidence from scientific	-Journal clubs	
studies(journal club)	- Discussions in	
	seminars and	
	clinical rounds	
D3. Conduct epidemiological Studies and		
surveys.		
D3. Perform data management including data		
entry and analysis.		
D5. Facilitate learning of junior students and		
other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6 Maintain therapeutic and ethically sound	- Simulations	- Global rating
relationship with patients.	- Clinical round	-
	- Seminars	Procedure/case
	- Lectures	presentation
	- Case	- Portfolio
	presentation	- Checklist
D7. Elicit information using effective nonverbal,		
explanatory, questioning, and writing skills.		

D8. Provide information using effective		
nonverbal, explanatory, questioning, and		
writing skills.		
D9. Work effectively with others as a member	- Senior staff	
of a health care team or other professional	experience	
group.		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D10. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	- Objective structured clinical examination - Patient survey
D11. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		-360o global rating
D12. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		 Objective structured clinical examination 3600 global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D13. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	- 360o global rating
D14. Practice cost-effective health care and resource allocation that does not compromise quality of care.		-Checklist evaluation of live or recorded performance
D15. Assist patients in dealing with system complexities.		-360o global rating -Patient survey

4. Module contents (topic s/modules/rotation) Module Matrix

Time Schedule: Third semester

			Covered ILOs		
	Knowledge A	Intellectual B	Practical skill C	General Skills D	
Anaesthetic management of Hepaticojejunostomy	A1-A4	B1-B4	C1-C8	D1-D15	
Anaesthetic management of Whipples procedure	A1-A4	B1-B4	C1-C8	D1-D15	
Anaesthetic management of Portosystemic shunt operations	A1-A4	B1-B4	C1-C8	D1-D15	
Anaesthetic management of Biliary atresia – Anaesthetic management	A1-A4	B1-B4	C1-C8	D1-D15	

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Clinical practice rounds
- 5. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra clinical rounds according to their needs

7.Assessment methods:

i. Assessment tools:

- **1.** Written examination
- 2. Oral Examination
- **3.** OSCE
- 4. Portfolio

ii. Time schedule: At the end of the third semester

iii. Marks: 200 (120 written + 80 oral and practical)

8. List of references

- Lectures notes
- Essential books:
 - o Miller's Anesthesia 8th Edition
- Periodicals, Web sites, ... etc.: None
- Others: None

	9. Signatures
M	odule Coordinator
Module Coordinator:	Head of the Department:
Date:	Date:

Intensive Care Patient Management Module (III-3)

Name of department: -Anesthesia and Surgical Intensive Care Department Faculty of medicine Assiut University 2019-2021

1. Module data

- Module Title: Intensive Care Patient Management
- Module code: нва429н
- Specialty: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- Total CP= 15 / total marks: 300 / total hours 450

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

- **Department (s) delivering the Module: Anesthesia department**
- Coordinator (s): Staff members of Anesthesia department as annually approved by department's council.
- **4** Date last reviewed: May 2019.
- General requirements (prerequisites) if any: None
- Requirements from the students to achieve Module ILOs are clarified in the joining portfolio

2. Module Aims

-The student should acquire the facts of general Intensive Care Patient Management principles necessary for the intensive care management for Hepato-pancreatico-biliary and Liver Transplant surgery.

- To make the students able to deal with medical emergencies safely and effectively as regard their investigations and management.

3. Intended learning outcomes (ILOs):

A. Knowledge and understanding

ILOS		Methods of	Methods of
		teaching/	Evaluation
		learning	
A1.	Describe Principles of	- Didactic	-Written and oral
-	Intensive care management of patients	- Lectures	examination
	undergoing liver related surgeries	- Seminars	- Portfolio
-	Mechanical ventilation		
-	Renal replacement therapy		
-	ICU care bundles		
-	Tracheostomy.		
-	Sonography in ICU		
-	Plasmapharesis		
-	Intensive Care Management of Patients		
	with Acute-on-Chronic Liver Failure		
	(ACLF).		
-	Arteial Blood Gases		
A2.	State update and evidence based		
	Knowledge and ventilatory strategies in		
	- ARDS		
	- Sepsis		
A3.	Memorize the facts and principles of the		
	relevant basic and clinically supportive		
	sciences related to Intensive Care.		
A4	Mention the basic ethical and		
	medicolegal principles relevant that		
	should be applied in practice and are		
	related to Intensive Care.		

B. Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
B1. Correlates the facts of Intensive care patient management related to the Hepato-pancreatico-biliary and Liver Transplant surgery.	 Didactic (lectures, seminars, tutorial) Clinical practice rounds 	-Written and oral examination -Portfolio

	- Senior staff experience	
B2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Intensive care patient management		
B3. Formulate management plans and alternative decisions in different situations in the field of Intensive care patient management.		

C. Practical skills

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
C1. Obtain proper history and examine	-Didactic	- Portfolio
patients in caring and respectful	(lectures,	- Checklist
behaviors.	seminars,	- (OSCE)
	tutorial)	
	-Outpatient	
	-Inpatient	
	-Case	
	presentation	
	-Direct	
	observation	
C2. Order the following non-invasive and	-Clinical round	-Procedure
invasive diagnostic procedures	with senior staff	presentation
P CVP (order)	-Observation	- Portfolio
Parterial blood gases	-Post graduate	- Checklist
P Ventilator adjustment	teaching	
Investigations	-Hand on	
	workshops	
C3. Interpret the following non-invasive	-Clinical round	- Portfolio
and invasive diagnostic procedures	with senior staff	- Checklist
I Hemodynamic Monitoring	-Observation -	
2 ABGs	Post graduate	
	teaching	
	-Hand on	
	workshops	
C4. Perform the following non-invasive	-Clinical round	- Portfolio
and invasive diagnostic and therapeutic	with senior staff	- Checklist
procedures	-Observation	

🛙 airway management	Post graduate	
ABG sampling	teaching	
CVP measurement	-Hand on	
Ventilator adjustment	workshops	
Chest care		
C5. Prescribe the following non-invasive	-Clinical round	- Procedure
and invasive therapeutic procedures :	with senior staff	presentation
Syringe pump adjustment	-Perform under	- Portfolio
Intubation	supervision of	- Checklist
INIV & IPPV modes and settings	senior staff	
C6. Carry out patient management plans	-Clinical round	- Portfolio
for common conditions related to	with senior staff	- Checklist
Intensive care patient management	-Perform under	
	supervision of	
	senior staff	
C7. Use information technology to	-Clinical rounds	- Portfolio
support patient care decisions and	with senior staff	- Checklist
patient education in common clinical	-Seminars	
situations related to Intensive care	-Direct	
patient management	observation of	
	procedural skills	
C8 Provide health care services aimed at	-Clinical rounds	- Portfolio
preventing health problems related	with senior staff	- Checklist
Intensive care patient management like:	-Seminars	
PHospital acquired pneumonia	-Direct	
Provide the second s	observation of	
infection	procedural skills	
Bed sores		
Deep venous thrombosis		
□GIT bleeding		
Psychological disturbances of the		
patients		
PHealthcare associated pneumonia		
C9. Provide patient-focused care in	-Clinical rounds	-Portfolio
common conditions related to	with senior staff	- Checklist
Intensive Care, while working with	-Seminars	
health care professionals, including	-Direct	
those from other disciplines	observation of	
	procedural skills	
C10. Write competently all forms of	-Didactic;	-Portfolio
patient charts and sheets including	-Clinical rounds	- Checklist
reports evaluating these charts and	with senior staff	

sheets.(Write a consultation note,	
Inform patients of a diagnosis and	
therapeutic plan, completing and	
maintaining medical records)	

D. General Skills

Practice-Based Learning and Improvement

ILOs	Methods of	Methods
	teaching/	of
	learning	Evaluation
D1. Use information technology to manage	-Observation and	Oral Exam
information, access on-line medical information; and	supervision	Portfolio
support their own education	-Written and oral	
	communication	
Interpersonal and Communication	on Skills	
ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
D2. Maintain therapeutic and ethically sound	-Observation and	Oral Exam
relationship with patients.	supervision	Portfolio
	-Written and oral	Check list
	communication	
D3. Maintain therapeutic and ethically sound	-Observation &	
relationship with patients.	supervision	
Record review (report)	-Didactic	
	Simulation	
D4. Elicit information using effective nonverbal,		
explanatory, questioning, and writing skills		
D5. Provide information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D6. Work effectively with others as a member of a		
health care team or other professional group.		
D7. Present a case in		
Common problems of intensive Care.		
D8. Write a report	-Senior staff	
 Patients' medical reports 	experience	
Death report		
• ABGs		
 Ventilatory lung mechanics 		
Hemodynamics		

D9. Council patients and families about	-Perform under
 Symptoms of critical illness 	supervision of
 Methods of management 	senior staff
 How they synchronize with ventilator 	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D10. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation & supervision -Didactic	-Objective structured clinical examination -Patient survey
D11. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		- 360o global rating
D12. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		-Objective structured clinical examination -3600 global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D13 Work effectively in relevant health care delivery	-Observation	360o global
settings and systems including good administrative and	-Senior staff	rating
time management.	experience	
D14. Practice cost-effective health care and resource		-Checklist
allocation that does not compromise quality of care.		evaluation
		of live or
		recorded
		performance
D15. Assist patients in dealing with system		-360o global
complexities.		rating
		- Patient
		survey

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: Third semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
 Intensive care management of patients undergoing liver related surgeries 	A1, A3,A4	B1-B3	C1-C4	D1-D15
- Mechanical ventilation	A1-A4	B1-B3	C2, C4-C10	D1-D15
 Renal replacement therapy 	A1, A3,A4	B1-B3		D1-D15
- ICU care bundles	A1-A4	B1-B3	C1-C10	D1-D15
- Tracheostomy	A1, A3,A4	B1-B3	C9	D1-D15
- Ultrasonography in ICU	A1, A3,A4	B1-B3	C9	D1-D15
- Plasmapharesis	A1, A3,A4	B1-B3		D1-D15
- Acid base imbalance	A1, A3,A4	B1-B3	C2-C4	D1-D15
 Intensive Care Management of Patients with Acute-on-Chronic Liver Failure (ACLF).Intensive care and prognosis scoring systems. 	A1, A3,A4	B1-B3	C1-C10	D1-D15
- ARDS	A2-A4	B1-B3	C1-C10	D1-D15
- Sepsis	A2-A4	B1-B3	C1-C10	D1-D15

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience
- 5. Clinical rounds
- 6. Hand on workshops
- 7. Perform under supervision of senior staff
- 8. Simulations
- 9. Case presentation
- 10.Inpatient
- 11.journal club,
- 12.Critically appraised topic
- 13. Educational prescription
6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- 1. Oral examination
- 2. Clinical examination
- 3. Written examination
- 4. One MCQ examination
- 5. Objective structure clinical examination (OSCE)
- 6. Procedure & case Log b& Portfolios
- 7. Simulation
- 8. Record review (report)
- 9. Patient survey
- 10. 3600 global rating
- 11. Checklist evaluation of live or recorded performance

ii. Time schedule: At the end of the third semester

iii. Marks: 300 (180 written+ 120 oral and practical)

8. List of references

- Lectures notes

- Essential books

Paul L Marino: The ICU Book (3rd Edition ,2007)

Frederic S. Bongard: Current Diagnosis & Treatment in critical care (3rd edition, 2008)

Roberts and Hedges' Clinical Procedures in Emergency Medicine and Acute Care by James R. Roberts MD FACEP FAAEM FACMT(7th Edition, 2018)

- Periodicals, Web sites, ... etc: None
- others: None

9. Signatures					
Module Co	ordinator				
Module Coordinator:	Head of the Department:				
•••••	••••••				
Date:	Date:				



Anesthetic and Intensive Care Management of Liver Transplant Surgeries

Transplantation Related Medical Sciences
 Anesthetic Management of Liver Transplant Surgeries
 Liver Transplant Intensive Care

Transplantation Related Medical Sciences Module (IV-1)

Name of department: Anesthesia and Surgical Intensive Care Department Faculty of medicine Assiut University 2019-2021

1. Module data

- Module Title: Transplantation Related Medical Sciences.
 Module code: HBA429I
- Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- Total CP= 5 / total marks: 100 / total hours 150

			Hours for stud	lent Workload/Se	emester	
Credit Points	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%

- Department (s) delivering the modulet: Anesthesia and Surgical Intensive Care Department
- Coordinator (s): Staff members of Anesthesia and Surgical Intensive Care Department as annually approved by department's council.
- **L** Date last reviewed: May 2019.
- General requirements (prerequisites) if any: None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts of Transplantation Related Medical Sciences necessary for the anesthesia and intensive care management for Liver Transplant surgery.

	3. Intended learning ou	itcomes (ILOs):						
	A. Knowledge and understanding							
) c	Methods of	Methods of					
	23	teaching/	Evaluation					
		learning						
A1.	Describe Principles of	- Didactic	-Written and oral					
-	liver transplantation (History and evolution)	- Lectures	examination					
-	Concept of living donor transplantation	- Seminars	- Portfolio					
-	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							

B. Intellectual outcomes

ILOs	Methods of	Methods of			
	teaching/	Evaluation			
	learning				
B1. Correlates the facts of Transplantation related Medical Sciences with anesthesia and intensive care management related to the Liver Transplant surgery.	- Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio			
	- Senior staff experience				

C. Practical skills = 0

D. General Skills

Practice-Based Learning and Improvement

ILOs						Methods of teaching/	Methods of
						learning	Evaluation
D1.	Use	information	technology	to	manage	-Observation and	Oral Exam
inform	nation	, access on-lin	e medical info	orma	tion; and	supervision	Portfolio
suppo	ort the	ir own educati	on			-Written and oral	
						communication	

Interpersonal and Communication Skills

ILOs						Methods of teaching/ learning	Methods of Evaluation
D2 relat	Maintain ionship wit	therapeutic h patients.	and	ethically	sound	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D3. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: Fourth semester

Торіс	Covered ILOs					
	Knowledge A	Intellectual B	Practical skill C	General Skills D		
 liver transplantation (History and evolution) 	A1	B1	-	D1-D4		
 Concept of living donor transplantation 	A1	B1	-	D1-D4		
 Organ procurement and donation – basics 	A1	B1	-	D1-D4		
 Indications, contraindications and outcomes of liver transplantation – an overview 	A1	B1	-	D1-D4		

 Reperfusion syndrome in clinical liver transplantation 	A1	B1	-	D1-D4
 Infectious diseases and transplantation 	A1	B1	-	D1-D4
 Understanding and recognizing complications related to liver transplantation and HPB surgeries 	A1	B1	-	D1-D4

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

5. Extra Didactic (lectures, seminars, tutorial) according to their needs

7. Assessment methods:

i. Assessment tools:

- **1.** Written and oral examination
- 2. Portfolio
- ii. Time schedule: At the end of the fourth semester

iii. Marks: 100 (60 written and 40 oral)

8. List of references

1. Lectures notes

- **2. Essential books:** Medical Care of the Liver Transplant Patient, 4th edition, 2012 and its updated version.
- 3. Periodicals, Web sites, ... etc: None
- 4. Others: None

9. Signatures

Module Coordinator				
Module Coordinator:	Head of the Department:			
Date:	Date:			

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

Name of department: Anesthesia and Surgical Intensive Care Department Faculty of medicine Assiut University <mark>2019-2021</mark>

1. Module data

- 4 Module Title: Anesthetic Management of Liver Transplant Surgeries
- **4 Module code:** HBA429J
- Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia.
- **4** Total CP= 10/ total marks: 200 / total hours: 300

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

* Private works load = 15 hours ; for examples: 2 passive seminars + 2 active seminars

seminar or attendance of conference related to Liver Transplantaton.

- Department (s) delivering the module: Anesthesia and Surgical Intensive Care department
- Coordinator (s): Staff members of Anesthesia and Surgical Intensive Care department as annually approved by department's council.
- **L** Date last reviewed: May 2019
- 🖊 General requirements (prerequisites) if any: None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

1. To teach and learn high level of clinical skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Anesthesia for Liver transplant surgeries.

2. Provide candidates with fundamental knowledge of dealing with patients during pre-intra- and postoperative periods.

3. Intended learning outcomes (ILOs):

A- Knowledge and understanding

	inderstanding	
11.0s	Methods of	Methods of
	teaching/	Evaluation
	learning	
A1. Describe the etiology, clinical picture,	- Didactic	-Written and oral
diagnosis and management of the	- Lectures	examination
following diseases and clinical conditions:	- Seminars	- Portfolio
- Acute liver failure.		
A2. Describe Principles of:	- Didactic	-Written and oral
- Anaesthetic management of Donor	- Lectures	examination
Hepatectomy	- Seminars	- Portfolio
- 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		
A3. State update and evidence based		
Knowledge of:		
- Anesthetic management of Acute liver		
failure presenting for liver transplantation		
Anesthesia for liver transplantation in		
adults – preoperative evaluation and		
perioperative management.		

B- Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
B1. Correlates the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases related to Anesthetic Management of Liver Transplant Surgeries.	- Clinical rounds - Senior staff experience	-Written and oral examination -Portfolio
B2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Anesthetic Management of Liver Transplant Surgeries.		
B3. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field of Anesthetic Management of Liver Transplant Surgeries.		
B4.Formulate management plans and alternative decisions in different situations in the field of the Anesthetic Management of Liver Transplant Surgeries.		

C- Practical skills

ILOs	Methods of teaching/	Methods of Evaluation
	learning	
C1. Obtain proper history and examine	-Didactic;	- OSCE
patients in caring and respectful behaviors.	-Lectures	- Portfolio
	-Clinical	- MCQ exam
	rounds with	
	senior staff	
C2. Order and interpret routine	-Clinical round	-Procedure
appropriate Lab investigations	with senior	presentation
related to Anesthetic	staff	Portfolio
Management of Liver Transplant	-Observation	- Chick lists
Surgeries.	-Post graduate	
	teaching	
	-Hand on	
	workshops	
C3. Order and Interpret the following	-Clinical round	Procedure
noninvasive/invasive diagnostic	with senior	presentation

procedures Chast x ray	staff	Portfolio Chick list
- Arterial blood gas		
- Liver function testing.		
C4. Perform the following noninvasive and	-Clinical round	-Procedure
invasive diagnostic and therapeutic	with senior	presentation
procedures	staff	- Portfolio
- Airway management	-Perform	- Chick list
- Local anesthetic techniques	undor	
- Arterial line placement (radial and femoral)		
- Central venous catheterization (femoral,	supervision of	
internal jugular and subclavian veins)	Semor Stan.	
 Ultrasound guided vascular access. 		
- Use of Cell Saver and Rapid Infusion System		
C5. Practice the interpretation of	-Clinical round	
- Transesophageal Echocardiography	with senior	
(TEE)	staff	
- Arterial blood gas.	Dorform	
- Coagulation monitoring including	undor	
Thromboelastogram (TEG), ROTEM and		
Sonoclot.	supervision of	
- Cardiac output monitoring – PiCCO,	Semor Stan.	
TOE, Swan-Ganz.		
- Intracranial pressure monitoring		
C6. Carry out patient management plans for		
common conditions related to		
Anesthetic Management of Liver		
Transplant Surgeries		
C7. Use information technology to support		
patient care decisions and patient		
education in common clinical situations		
related to Anesthetic Management of		
Liver Transplant Surgeries		
C8. Provide health care services aimed at		
preventing health problems related to		
Anesthetic Management of Liver Transplant		
Surgeries.		
C9. Provide patient-focused care in common		
conditions related to anesthesia. while		
working with health care professionals,		

including those from other disciplines like:	
 Hepatobiliary pancreatic and liver 	
transplant surgery.	
- Radiology.	
- Hepatology.	
C10. Write competently all forms of patient	
charts and sheets including reports evaluating	
these charts and sheets.	

D- General Skills Practice-Based Learning and Improvement

II ∩s	Methods of	Methods of
	too shing /	Fuchation
	teaching/	Evaluation
	learning	
D1. Perform practice-based improvement	-Case log	Procedure/case
activities using a systematic methodology.	-Observation and	presentation
	supervision	- Portfolios
	-Written & oral	
	communication	
D2. Appraises evidence from scientific	-Journal clubs	
studies(journal club)	- Discussions in	
	seminars and	
	clinical rounds	
D3 Conduct epidemiological Studies and		
surveys.		
D4. Perform data management including data		
entry and analysis.		
D5. Facilitate learning of junior students and	-Clinical rounds	
other health care professionals.	-Senior staff	
	experience	

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6. Maintain therapeutic and ethically sound relationship with patients.	-Simulations -Clinical round -Seminars -Lectures -Case presentation -Hand on workshops	-Global rating -Procedure/case presentation -Portfolios -Checklist

D7. Elicit information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D8. Provide information using effective nonverbal,		
explanatory, questioning, and writing skills.		
D9 Work effectively with others as a member of a		
health care team or other professional group.		
D10. Present a case in in common problems related	-Clinical round	
to Anesthetic Management of Liver Transplant	-Seminars	
Surgeries.		
D11 .Write a report	-Senior staff	
- Patients' anesthetic sheet reports	experience	
- ABGs reports		
D12. Council patients and families about	-Clinical round	
 Alternative of anesthetic procedures 	with senior	
 Postoperative care of surgical patients 	staff	

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D13. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience	1. Objective structured clinical examination
	Case taking	2. Patient survey
D14. Demonstrate a commitment to ethical principles, including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		1. 360o global rating
D15. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		 Objective structured clinical examination 3600 global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation	
D16. Work effectively in relevant health care delivery settings and systems.	Observation Senior staff experience	1. 360o global rating	

D17. Practice cost-effective health care and	1. Check list
resource allocation that does not compromise	evaluation of live
quality of care.	or recorded
	performance
D18. Assist patients in dealing with system	1. 360o global
complexities.	rating
	2. Patient survey

4. Module contents (topics/modules/rotation) Module Matrix

Time Schedule: Forth semester

Торіс	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Acute liver failure	A1, A3	B1-B4	C1-C10	D1-D18
 Anaesthetic management of Donor Hepatectomy 	A1	B1-B4	C1-C10	D1-D18
 Anaesthesia for liver transplantation in adults – preoperative evaluation and perioperative management 	A2, A3	B1-B4	C1-C10	D1-D18
 Anaesthesia for retrieval in cadaveric transplantation 	A1	B1-B4	C1-C10	D1-D18
 Use of Cell Saver and Rapid Infusion System 	A1	B1-B4	C1-C10	D1-D18
 Anaesthetic management of Split liver transplantation 	A1	B1-B4	C1-C10	D1-D18
- Anaesthetic	A1	B1-B4	C1-C10	D1-D18

management of Auxiliary liver transplantation				
 Anaesthetic management of Paediatric liver transplantation 	A1	B1-B4	C1-C10	D1-D18
 Anaesthetic management of Acute liver failure presenting for liver transplantation 	A1	B1-B4	C1-C10	D1-D18

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- Written and oral examination
 - Portfolio
 - Objective structure clinical examination (OSCE)
 - Objective structure practical examination (OSPE)

ii. Time schedule: At the end of the forth semester

iii. Marks: 200 (120 Written + 50 oral +30 Practical)

8. List of references

- Lectures notes

- Essential books:

Miller Anesthesia, 6th edition

- Recommended books:

- Liver Anesthesiology and Critical Care Medicine, Editors: Wagener, Gebhard (Ed.)(2018)
- Oxford Textbook of Transplant Anaesthesia and Critical Care (Oxford Textbook in Anaesthesia) 1st Edition by <u>Ernesto A. Pretto Jr.</u> (Editor), <u>Gianni</u> <u>Biancofiore</u> (Editor), <u>Andre DeWolf</u> (Editor)

- Medical Care of the Liver Transplant Patient, 4th edition
- -Periodicals, Web sites, ... etc:
 - British journal of anesthesia
 - Anesthesia and analgesia
 - Anesthesiology
 - Canadian journal of anesthesia
 - EASL (European Association for Study of Liver Diseases).
 - AASLD (American Association for Study Liver Diseases).

- Others: None

9. Signatures		
Μα	odule Coordinator	
Module Coordinator:	Head of the Department:	
Date:	Date:	

Liver Transplant Intensive Care Module (IV-3)

Name of department: --Anesthesia and Surgical Intensive Care Department Faculty of medicine Assiut University 2019-2021

1. Module data

4 Module Title: Liver Transplant Intensive Care

Module code: нва429к

Speciality: Professional Diploma in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia.

Total CP= 15 / total marks: 300 / total hours 450

	Hours for student Workload/Semester					
Credit Points	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%

- Department (s) delivering the module: Anesthesia and Surgical Intensive Care department
- Coordinator (s): Staff members of Anesthesia and Surgical Intensive Care department as annually approved by department's council.
- Date last reviewed: May 2015.
- General requirements (prerequisites) if any: None
- Requirements from the students to achieve module ILOs are clarified in the joining portfolio.

2. Module Aims

-The student should acquire the facts of Liver Transplant Intensive Care management principles necessary for Hepato-pancreatico-biliary and Liver Transplant surgery.

- To teach and learn high level of clinical skills, in addition to update medical knowledge as well as clinical experience and competence in the area of Liver Transplant Intensive Care management.

5. Intended learning outcomes (ILUS):				
A. Knowledge and understanding				
	Methods of	Methods of		
	teaching/	Evaluation		
	learning			
A1. Describe Principles of	- Didactic	-Written and oral		
 Post-operative circulatory instability, 	- Lectures	examination		
hemodynamic monitoring and	- Seminars	- Portfolio		
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 				
 Early post-operative complications 				
- Postoperative pain control in transplant				
patients				
A2. Memorize the facts and principles of the				
relevant basic and clinically supportive				
sciences related to Liver Transplant				
Intensive Care.				
A3. Mention the basic ethical and				
medicolegal principles relevant that				
should be applied in practice and related				
to Liver Transplant Intensive Care.				
B Intellectual ou	itcomes			

Г

B. Intellectual outcomes			
ILOs	Methods of teaching/ learning	Methods of Evaluation	
B1. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Liver Transplant Intensive Care.	- Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio	
	- Clinical practice rounds		
	- Senior staff		

B2. Formulate management plans and	
alternative decisions in different situations	
in the field of Liver Transplant Intensive	
Care.	

C. Practical skills

ILOs	Methods of	Methods of
	teaching/	Evaluation
	learning	
C1. Obtain proper history and examine	-Didactic	- Portfolio
patients in caring and respectful behaviors.	(lectures,	- Checklist
	seminars,	- Objective
	tutorial)	structure clinical
	-Outpatient	examination
	-Inpatient	(OSCE)
	-Case	
	presentation	
	-Direct	
	observation	
C2. Order the following non-invasive and	-Clinical round	-Procedure
invasive diagnostic procedures	with senior staff	presentation
2 CVP (order)	-Observation	Portfolio
I Arterial blood gases	-Post graduate	- Checklist
Ventilator adjustment	teaching	
Investigations	-Hand on	
	workshops	
C3. Interpret the following non-invasive	-Clinical round	Portfolio
and invasive diagnostic procedures	with senior staff	- Checklist
I Hemodynamic Monitoring	-Observation -	
2 ABGs	Post graduate	
	teaching	
	-Hand on	
	workshops	
C4. Perform the following non-invasive and	-Clinical round	Portfolio
invasive diagnostic and therapeutic	with senior staff	- Checklist
procedures	-Observation	
🛿 airway management	Post graduate	
2 ABG sampling	teaching	
CVP measurement	-Hand on	
☑ Ventilator adjustment	workshops	
2 Chest care		
C5. Prescribe the following non-invasive	-Clinical round	- Procedure

and invasive therapeutic procedures :	with senior staff	presentation
Syringe pump adjustment	-Perform under	Portfolio
Intubation	supervision of	- Checklist
INIV & IPPV modes and settings	senior staff	
C6. Carry out patient management plans	-Clinical round	Portfolio
for common conditions related to liver	with senior staff	- Checklist
transplant Intensive Care as:	-Perform under	
- Post-Operative Circulatory Instability,	supervision of	
Hemodynamic Monitoring And	senior staff	
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 		
C7. Use information technology to support	-Clinical rounds	Portfolio
patient care decisions and patient	with senior staff	- Checklist
education in common clinical situations	-Seminars	
related to liver transplant Intensive Care.	-Direct	
	observation of	
	procedural skills	
C8. Provide health care services aimed at	-Clinical rounds	- Portfolio
preventing health problems related	with senior staff	- Checklist
Intensive Care like:	-Seminars	
Performance Performanc	-Direct	
Image: Provide and the second secon	observation of	
infection	procedural skills	
Bed sores		
Deep venous thrombosis		
☑GIT bleeding		
Psychological disturbances of the patients		
Image: Provide the associated pneumonia		
C9. Provide patient-focused care in	-Clinical rounds	-Portfolio
common conditions related to Intensive	with senior staff	- Checklist
Care, while working with health care	-Seminars	
professionals, including those from other	-Direct	
disciplines	observation of	
	procedural skills	
C10. Write competently all forms of	-Didactic;	Portfolio
patient charts and sheets including	-Clinical rounds	- Checklist

reports evaluating these charts and	with senior staff	
sheets.(Write a consultation note,		
Inform patients of a diagnosis and		
therapeutic plan, completing and		
maintaining medical records)		

D. General Skills Practice-Based Learning and Improvement

ILOs	Methods of	Methods
	teaching/	Of Evaluation
D1.Use information technology to manage	-Observation and	Oral Exam
information, access on-line medical information; and	supervision	Portfolio
support their own education	-Written and oral	
	communication	
Interpersonal and Communication		Mathada af
ilos	wiethous of	Iviethous of
	learning	Evaluation
D2. Maintain therapeutic and ethically sound relationship with patients.	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list
D3. Maintain therapeutic and ethically sound relationship with patients. Record review (report)	-Observation & supervision -Didactic Simulation	
D4. Elicit information using effective nonverbal, explanatory, questioning, and writing skills		
D5. Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
D6. Work effectively with others as a member of a health care team or other professional group.		

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D7. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation & supervision -Didactic	-Objective structured clinical examination -Patient survey
D8. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		- 360o global rating
D9. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		-Objective structured clinical examination -3600 global rating

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D10. Work effectively in relevant health care delivery	-Observation	360o global
settings and systems including good administrative and	-Senior staff	rating
time management.	experience	
D11. Practice cost-effective health care and resource		-Checklist
allocation that does not compromise quality of care.		evaluation
		of live or
		recorded
		performance
D12. Assist patients in dealing with system		-3600 global
complexities.		rating
		- Patient
		survey

4. Module contents (topic s/modules/rotation Module Matrix

Time Schedule: Forth semester

	Торіс	Covered ILOs				
		Knowledge A	Intellectual B	Practical skill C	General Skills D	
-	Post-operative circulatory instability, hemodynamic monitoring and stabilization	A1-A3	B1,B2	C1-C10	D1-D12	
1	Fluid and electrolyte management	A1-A3	B1,B2	C1-C10	D1-D12	
-	Post-operative ventilatory support and weaning from mechanical ventilation	A1-A3	B1,B2	C1-C10	D1-D12	
-	Assessment of graft function	A1-A3	B1,B2	C6	D1-D12	
I	Immunosuppression protocols	A1-A3	B1,B2	C6	D1-D12	
1	Infection prophylaxis	A1-A3	B1,B2	C6	D1-D12	
I	Post-oltx nutrition therapy	A1-A3	B1,B2	C1-C10	D1-D12	
_	Early post-operative complications	A1-A3	B1,B2	C1-C10	D1-D12	
_	Postoperative pain control in transplant patients	A1-A3	B1,B2		D1-D12	

5. Methods of teaching/learning:

- 1. Didactic (lectures, seminars, tutorial)
- 2. Observation and supervision
- 3. Written & oral communication
- 4. Senior staff experience
- 5. Clinical rounds
- 6. Hand on workshops
- 7. Perform under supervision of senior staff
- 8. Simulations
- 9. Case presentation
- 10.Inpatient
- 11.journal club,
- 12.Critically appraised topic
- 13. Educational prescription

6. Methods of teaching/learning: for students with poor achievements

- 1. Extra Didactic (lectures, seminars, tutorial) according to their needs
- 2. Extra Laboratory work according to their needs

7. Assessment methods:

i. Assessment tools:

- 1. Oral examination
- 2. Clinical examination
- 3. Written examination
- 4. One MCQ examination
- 5. Objective structure clinical examination (OSCE)
- 6. Procedure & case Log & Portfolios
- 7. Simulation
- 8. Record review (report)
- 9. Patient survey
- 10. 3600 global rating
- 11. Check list evaluation of live or recorded performance
- ii. Time schedule: At the end of the forth Semester

iii. Marks: 300 (180 written + 80 oral + 40 Practical)

8. List of references

- Lectures notes

- Essential books

- Liver Anesthesiology and Critical Care Medicine, Editors: Wagener, Gebhard (Ed.)(2018)

- Oxford Textbook of Transplant Anaesthesia and Critical Care (Oxford Textbook in Anaesthesia) 1st Edition by Ernesto A. Pretto Jr. (Editor), Gianni Biancofiore (Editor), Andre DeWolf (Editor)

- Medical Care of the Liver Transplant Patient, 4th edition

- Periodicals, Web sites, ... etc: None
- Others: None

9. Signatures				
Module Coordinator				
Module Coordinator:	Head of the Department:			
•••••	••••••			
Date:	Date:			

ANNEX 2 Program Academic Reference Standards (ARS)

1- Graduate attributes for Professional Diploma degree <mark>in Hepato</mark> Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care

The Graduate (after re training and Professional Diploma degree years of study) must:

1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and clinical audit in HPB and Liver Transplant Surgery.
2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in related to Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in the field of Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care..

4- Provide patient care that is appropriate, effective and compassionate for dealing with common health problems and health promotion using evidence-based and updated information.

5- Identify and share to solve health problems in his speciality.

6- Acquire all competencies –including the use of recent technologies- that enable him to provide safe, scientific, and ethical and evidence based clinical care including update use of new technology in Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care..

7- Demonstrate interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professions, the scientific community and the public.

8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.

9- Acquire decision making capabilities in different situations related to Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

10- Show responsiveness to the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

11- Be aware of public health and health policy issues and share in system-based improvement of health care.

12- Show appropriate attitudes and professionalism.

13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care or one of its subspecialties.

2- Competency based Standards for Professional Diploma degree graduates

2.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

2-1-A- Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics.

2-1-B- The relation between good clinical care of common health problems in the Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care and the welfare of society.

2-1-C- Up to date and recent developments in common problems related to Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

2-1-D- Ethical and medicolegal principles relevant to practice in Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

2-1-E -Quality assurance principles related to the good medical practice in Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

2-1-F- Ethical and scientific basics of medical research.

2.2- Intellectual skills:

By the end of the program, the graduate should be able to demonstrate the following:

2-2-A- Correlation of different relevant sciences in the problem solving and management of common diseases of Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

2-2-B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

2.2- C- Demonstrating systematic approach in studying clinical problems relevant to Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

2-2-D- Making alternative decisions in different situations in HPB and Liver Transplant Surgery.

2.3- Clinical skills

By the end of the program, the graduate should be able to

2-3-A - Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

2-3-B- Demonstrate patient care skills relevant to Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive carefor patients with common diseases and problems.

2-3- C- Write and evaluate reports for situations related to the field of Hepato Pancreatico-Biliary and Liver Transplant Anesthesia & Intensive care.

2.4- General skills

By the end of the program, the graduate should be able to

Competency-based outcomes for Practice-based Learning and Improvement

2-4-A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence,, improvements in patient care and risk management.

2-4-B- Use all information sources and technology to improve his practice.

2-4-C- Demonstrate skills of teaching and evaluating others.

4 Competency-based objectives for Interpersonal and Communication Skills

2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

4 Competency-based objectives for Professionalism

2-4-E- Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

4 Competency-based objectives for Systems-based Practice

2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.

2-4-g- Demonstrate skills of effective time management.

2-4-H- Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

	Patient Care	Medical knowledge	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems- based practice
Didactic (lectures, seminars, tutorial)	Х	Х		Х	Х	Х
journal club,	Х	Х	Х			
Educational prescription	Х	Х	Х	Х	Х	Х
Present a case (true or simulated) in a grand round	Х	Х	Х	Х	Х	
Observation and supervision	Х		Х	Х	Х	Х
conferences		Х	Х	Х		Х
Written assignments	Х	Х	Х	Х	Х	Х
Oral assignments	X	Х	Х	X	Х	X

Annex 3, Methods of teaching/learning

Teaching methods for knowledge

- Didactic (lectures, seminars, tutorial)
- ✤ journal club
- Critically appraised topic
- Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- Present a case (true or simulated) in a grand round
- Others

Teaching methods for patient care

- Observation and supervision /Completed tasks procedure/case logs
- On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

- Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).
- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Method	Practical Skills	K	Intellectual	General skills			
	Patient Care	K	I	Practice-based learning/ Improvement	Interpersonal and communication skills	Professionalism	Systems- based practice
Record review	Х	Х	X		Х	Х	Х
Checklist	Х				X		
Global rating	Х	Х	Х	Х	X	Х	Х
Simulations	Х	Х	Х	Х	X	Х	
Portfolios	Х	Х	Х	Х	X		
Standardized oral examination	Х	Х	Х	Х	Х		Х
Written examination	Х	Х	X	Х			Х
Procedure/ case log	Х	X					
OSCE	X	Х	X	Х	X	X	Х

Annex 4, ILOs evaluation methods.

Annex 4, Glossary of Professional Diploma Degree doctors assessment methods

Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.

✤ Chart Stimulated Recall – Uses the Professional Diploma doctor's patient records in an oral examination to assess clinical decision-making.

✤ Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.

Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate Professional Diploma doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the Professional Diploma doctor's performance.

✤ Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the Professional Diploma doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the Professional Diploma doctors.

Procedure or Case Logs – Professional Diploma doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.

 PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by a Professional Diploma doctors. Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.

Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.

✤ 360 Global Rating Evaluations – Professional Diploma doctors, faculty, nurses, clerks, and other clinical staff evaluate Professional Diploma doctors from different perspectives using similar rating forms.

Portfolios – A portfolio is a set of project reports that are prepared by the MSc doctors to document projects completed during the Professional Diploma study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.

Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.

Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.

 Procedure or Case Logs – Professional Diploma data. Logs are useful to document educational experiences and deficiencies.

 PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by Professional Diploma doctors.

Annex 5, program evaluation tools

By whom	Method	sample
Quality Assurance Unit	Reports	#
	Field visits	
External Evaluator	Reports	#
(s):According to department	Field visits	
council		
External Examiner (s):		
According to department		
council		
Stakeholders	Reports	#
	Field visits	
	Questionnaires	
Senior students	Questionnaires	#
Alumni	Questionnaires	#

Annex 6, program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الدراسات العليا مع المعايير الأكاديمية المعتمدة من كلية الطب 🗌 جامعة أسيوط لدرجة الدبلومة المهنية في التخدير والعناية المركزة الجراحية لحالات الكبد والبنكرياس والجهاز المراري وزراعة الكبد

I- General Academic Reference Standards (GARS) versus Program ARS

Faculty ARS	NAQAAE General ARS for
	Postgraduate programs
1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and clinical audit in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	1- إجادة تطبيق أساسيات و منهجيات البحث العلمي واستخدام أدواته المختلفة
2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	2-تطبيق المنهج التحليلي واستخدامه في مجال التخصص
3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	3-تطبيق المعارف المتخصصة و دمجها مع المعارف ذات العلاقة في ممارسته المهنية
 4- Provide patient care that is appropriate, effective and compassionate for dealing with common health problems and health promotion using evidence-based and update information. 	4-إظهار وعيا بالمشاكل الجارية و الرؤى الحديثة في مجال التخصص
5- Identify and share to solve health problems in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	5-تحديد المشكلات المهنية و إيجاد حلولا لها
6- Acquire all competencies that enable him to provide safe, scientific, ethical and evidence based clinical care including update use of new technology in Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	6-إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجيةالمناسبة بما يخدم ممارسته المهنية

1- Graduate attributes

7- Demonstrate interpersonal and communication skills that ensure effective	7-التواصل بفاعلية و القدرة على قيادة فرق
information exchange with individual	العمل
patients and their families and teamwork	
with other health professions, the scientific	
community and the public.	
8- Function as supervisor, and trainer in	
relation to colleagues, medical students and	
other health professions.	
9- Acquire decision making capabilities in	8–اتخاذ القرار في سياقات مهنية مختلفة
ancreatico-biliary and Liver Transplant	
Anesthesia and Intensive Care	
10- Show responsiveness to the larger context	9- توظيف الموارد المتاحة بما يحقق أعلى
of the health care system, including e.g.	أمتقادة والأحفاظ عادوا
the organisation of health care,	
partnership with health care providers and	
managers, practice of cost-effective health	
allocations	
11- Be aware of nublic health and health	
policy issues and share in system-based	10–إطهار الوعي بدوره في تتميه المجتمع و
improvement of health care.	الحفاظ على البيئة في ضوء المتغيرات
-	العالمية و الإقليمية
12- Show appropriate attitudes and	11-التصرف بما يعكس الالتزام بالنزاهة و
professionalism.	المصداقية و الالتزام بقواعد المهنة
13- Demonstrate skills of lifelong learning	12-تنمية ذاته أكاديميا و مهنيا و قادرا على
and maintenance of competence and ability for	
continuous medical education and learning	الشعلم المستمر
in subsequent stages in Hepato-pancreatico-	
biliary and Liver Transplant Anesthesia and	
mensive Care of one of its subspecialties.	
2. Academic standard

Faculty ARS	NAQAAE General ARS for Postgraduate programs
2.1.A -Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problems and topics.	2-1-أ-النظريات و الأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة.
2.1.B- The relation between good clinical care of common health problems in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care and the welfare of society.	1-2-ب-التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة.
2.1. C- Up to date and recent developments in common problems related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care.	1−2–ج-التطورات العلمية في مجال التخصص.
2.1. D- Ethical and medico-legal principles relevant to practice in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care.	2–1–د–المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص.
2.1. E-Quality assurance principles related to the good medical practice in Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	2–1–ه– مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. F- Ethical and scientific basics of medical research.	1-2-و- أساسيات وأخلاقيات البحث العلمي
 2.2. A-Correlation of different relevant sciences in the problem solving and management of common diseases of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to Hepato-pancreatico-biliary and Liver 	2-2-أ- تحليل و تقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل

Transplant Anesthesia and Intensive Care	
2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	2-2-ب- حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
2.2. A-Correlation of different relevant sciences in the problem solving and management of common diseases of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	2-2-ج- الربط بين المعارف المختلفة لحل المشاكل المهنية
2.2. C- Demonstrating systematic approach in studying clinical problems relevant to the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	2-2-د- إجراء دراسة بحثية و /أو كتابة دراسة علمية منهجية حول مشكلة بحثية
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	2–2هـ- تقييم المخاطر في الممارسات المهنية في مجال التخصص
2.4.A-Demonstrate practice-based learning and Improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific improvements in patient evidence, care and risk management	2-2-و – التخطيط لتطوير الأداء في مجال التخصص
2.2.D- Making alternative decisions in different situations in the field of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care.	2-2-ز – اتخاذ القرارات المهنية في سياقات مهنية متنوعة
2.3.A- provide patient care that is compassionate, appropriate, and effective for the treatment of	2-3-أ- إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص

health problems and the promotion of health.	
2.3.B- Demonstrate patient care	
skills relevant to Hepato-	
pancreatico-biliary and Liver Transplant	
Anesthesia and Intensive Care for	
patients with common diseases and	
problems.	
2.3.C- Write and evaluate reports for	2–3–ب– كتابة و تقييم التقارير المهنية
Situation related to Hepato-	
pancreatico-biliary and Liver Transplant	
Anesthesia and Intensive Care.	
2.3.A- provide patient care that is	2–3–ج– تقييم الطرق و الأدوات القائمة في مجال
compassionale, appropriate, and	التخصص
problems and the promotion of	
problems and the promotion of	
2 3 B- Demonstrate nationt care skills	
relevant to that Hepato-pancreatico-	
biliary and Liver Transplant Anesthesia	
and Intensive Care for patients with	
common diseases and problems.	
2.4.D- Demonstrate interpersonal and	2–4–أ–التواصل الفعال بأنواعه المختلفة
communication skills that result in	
effective information exchange and	
teaming with patients, their families,	
and other health professionals.	
2.4.A-Demonstrate practice-based	4-2-ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة
learning and improvement skills that	المهندة
investigation and involves	- سالم من ا
evaluation of their own patient care,	
appraisal and assimilation of scientific	
evidence, improvements in patient	
care and risk management	
2.4.B- Use all information sources and	
technology to improve his practice.	
2.4.A-Demonstrate practice-based	2–4–ج– التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية
learning and improvement skills that	-
involves investigation and evaluation	
of their own patient care, appraisal	
and assimilation of scientific	
evidence, improvements in patient	

care and risk management	
 2.4.B- Use all information sources and technology to improve his practice. 2.4.E-Demonstrate professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. 	
2.4.A-Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, , improvements in patient care and risk management.	2-4-د- استخدام المصادر المختلفة للحصول على المعلومات و المعارف
2.4. C- Demonstrate skills of teaching and evaluating others.	2–4–ه– وضع قواعد ومؤشرات تقييم أداء الآخرين
2.4. F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.	2-4-و – العمل في فريق ، وقيادة فرق في سياقات مهنية مختلفة
2.4.G- Demonstrate skills of effective time management.	2-4-ز - إدارة الوقت بكفاءة
2.4.H- Demonstrate skills of self and continuou learning.	2–4–ح– التعلم الذاتي و المستمر

Comparison between ARS and ILOS for Professional Diploma

degree in Hepato-pancreatico-biliary and Liver Transplant Anesthesia and

Intensive Care

(ARS)	(ILOs)
<u>2-1- Knowledge and understanding</u>	2-1- Knowledge and understanding
2-1-A- Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics.	 2-1-A- Explain the essential facts and principles of relevant basic sciences including, Anatomy, Physiology, Microbiology and Pharmacology related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-1-B- Mention <u>essential facts</u> of clinically supportive sciences including Basics of Nutrition, Clinical Pathology nutrition and infection control related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-1-C- Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
2-1-B The relation between good clinical care of common health problem in the Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care and the welfare of society.	2-1-H- State the impact of common health problems in the field of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care on the society and how good clinical practice improve these problems.
2-1-C- Up to date and recent developments in common problems related to the field of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	 2-1-C- Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-1-D- Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Hepato-pancreatico-biliary and Liver Transplant

	Anesthesia and Intensive Care
2-1-D- Ethical and medicolegal Principles relevant to practice in the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care field.	2-1-E- Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of Hepatopancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
2-1-E -Quality assurance principles related to the good medical practice in the Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care field.	2-1-F- Mention the basics and standards of quality assurance to ensure good clinical practice in the field Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
2-1-F- Ethical and scientific basics of medical research.	2-1-G- Mention the ethical and scientific principles of medical research methodology,information technology and evidence based medicine.
<u>2-2- Intellectual skills</u> :	<u>2-2- Intellectual skills:</u>
2-2-A -Correlation of different relevant sciences in the problem solving and management of common diseases of the Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	2-2-A- Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Hepato-pancreaticobiliary and Liver Transplant Anesthesia and Intensive Care
2-2-B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common clinical situations related to Hepato-pancreatico- biliary and Liver Transplant Anesthesia and Intensive Care	2-2-B- Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Hepato- pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
2-2-C- Demonstrating systematic approach in studding clinical problems relevant to the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care field.	 2-2-C- Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care field.
2-2-D Making alternative decisions in different situations in the field of the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	2-2-D- Formulate management plans and alternative decisions in different situations in the field of the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care

2-3- Clinical skills:	2/3/1/Practical skills (Patient Care :)
 2-3-A- Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. 2-3-B- Demonstrate patient care skills relevant to that Hepatopancreatico-biliary and Liver Transplant Anesthesia and Intensive Care for patients with common diseases and problems. 	 2-3-1-A- Obtain proper history and examine patients in caring and respectful behaviors. 2-3-1-B- Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment for common conditions related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-3-1-C- Carry out patient management plans for common conditions related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-3-1-D- Use information technology to support patient care decisions and patient education in common clinical situations related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-3-1-E- Perform competently noninvasive and invasive procedures considered essential for the Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-3-1-F- Provide health care services aimed at preventing health problems related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care 2-3-1-G- Provide patient-focused care in common conditions related to Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care
2-3-C- Write and evaluate reports for situations related to the field of Hepato-pancreatico-biliary and Liver Transplant Anesthesia and Intensive Care	-3-1-H Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets. (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records).

2-4- General skills	2/3/2 General skills
2-4-A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management	 2-3-2-A- Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks). 2-3-2-B- Appraises evidence from scientific studies. 2-3-2-C- Conduct epidemiological studies and surveys.
2-4-B- Use all information sources and technology to improve his practice.	 2-3-2-C- Conduct epidemiological studies and surveys. 2-3-2-D.Perform data management including data entry and analysis and using information technology to manage information, access on-line medical information; and support their own education.
2-4-C- Demonstrate skills of teaching and evaluating others.	2-3-2-E- Facilitate learning of students other health care professionals including their evaluation and assessment.
2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.	 2-3-2-F- Maintain therapeutic and ethically sound relationship with patients. 2-3-2-G- Elicit information using effective nonverbal, explanatory, questioning, and writing skills. 2-3-2-H- Provide information using effective nonverbal, explanatory, questioning, and writing skills. 2-3-2-I- Work effectively with others as a member of a health care team or other professional group.
2-4-E -Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	 2-3-2-J- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. 2-3-2-K- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices. 2-3-2-L-Demonstrate sensitivity and responsiveness to patients'

	culture, age, gender, and disabilities.
2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively use system resources to provide care that is of optimal value.	 2-3-2-M-Work effectively in relevant health care delivery settings and systems including good administrative and time management 2-3-2-N- Practice cost-effective health care and resource allocation that does not compromise quality of care. 2-3-2-O- Assist patients in dealing with system complexities.
2-4-G - Demonstrate skills of effective time management	2-3-2-M -Work effectively in relevant health care delivery settings and systems including good administrative and time management
2-4-H- Demonstrate skills of self and continuous learning.	2-3-2-A- Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

III- Program matrix

Knowledge and Understanding

Module Program covered ILOs										
		2/1/A	2/1/B	2/1/C	2/1/D	2/1/E	2/1/F	2/1/G	2/1/H	
Sen	Semester 1: Basic Sciences + Elective Module									
1.	Anatomy	✓								
2.	Physiology	✓								
3.	Microbiology	✓								
4.	Pharmacology	✓								
5.	Clinical Pathology		\checkmark							
	and Laboratory									
	Testing									
6.	Basic Nutrition		✓							
7.	Basic and		✓					~		
	Advanced									
	Infection Control									
	in hepatic patient									
8.	Statistics and							\checkmark		
	research									
	methdology									
9.	Evidence Based				\checkmark			\checkmark		
	Medicine							,		
10.	Information							\checkmark		
_	Technology		.1							
Sen	nester 2: Specialty R	elated Ane	esthesia Sciei	nces	/		/			
1-	Patient	~	~	~	V		V			
2	Derionarativo									
2-	Ferioperative			v						
3.	Anesthetic			✓			~		\checkmark	
5	Management of				-					
	HPB Surgeries									
	Part 1.									
4. F	reanesthetic			✓	✓					
Eva	luation									
Sen	nester 3: Anesthetic	and Inten	sive Care Ma	inagement of	f HPB Surger	ies				
1.	Liver Related	✓	\checkmark	~	✓	✓	\checkmark	\checkmark	✓	
	Medical									
	Sciences			,						
2.	Anesthetic			~	~		✓		~	
	Management of									
	Part 2									
3	Intensive care	✓	\checkmark	√	√	√				
	Patient									
L	Management									
Sen	nester 4: Anesthetic	and Intens	sive Care Ma	nagement of	Liver Transp	olant Surgerie	es			
1.	Transplantation			✓						
	Related Medical									
	Sciences									
2.	Anesthetic			\checkmark	\checkmark					
	Management of									
	Liver Transplant									
3	Liver Transplant	 ✓ 	✓	✓		✓				
5.	Intensive Care	,				÷				

Intellectual

rse	Program covered ILOs					
	2/2/A	2/2/B	2/2/C	2/2/D		
Semester 1: Basic Sciences + Elective Module	ļ					
1. Anatomy	√					
2. Physiology	√					
3. Microbiology	√					
4. Pharmacology	√					
5. Clinical Pathology and Laboratory Testing	√					
6. Basic Nutrition	\checkmark					
7. Basic and Advanced Infection Control in	\checkmark					
hepatic patient						
8. Statistics and research methdology		✓				
9. Evidence Based Medicine		√	✓			
10. Information Technology			✓			
Semester 2: Specialty Related Anesthesia Scie	ences					
1- Patient monitoring.	√					
2- Perioperative Emergences.	√					
3- Anesthetic Management of HPB	√	√	✓	✓		
Surgeries Part 1.						
4. Preanesthetic Evaluation	\checkmark					
Semester 3: Anesthetic and Intensive Care M	lanagement	of HPB Sur	geries	_		
1. Liver Related Medical Sciences	\checkmark	\checkmark	\checkmark	\checkmark		
2. Anesthetic Management of HPB	\checkmark	\checkmark	✓	\checkmark		
Surgeries Part 2						
3. Intensive care Patient Management	\checkmark		\checkmark	✓		
Semester 4: Anesthetic and Intensive Care M	anagement	of Liver Tra	nsplant Sur	geries		
1. Transplantation Related Medical✓						
Sciences						
2. Anesthetic Management of Liver		✓	✓	\checkmark		
Transplant Surgeries						
3. Liver Transplant Intensive Care ✓ ✓ ✓ ✓						

Practical Skills (Patient Care

Module	odule Program covered ILOs							
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H
Semester 1: Basic Sciences + Elective Module								
1. Anatomy								
2. Physiology								
3. Microbiology								
4. Pharmacology								
5. Clinical Pathology								
and Laboratory								
Testing								
6. Basic Nutrition	√	✓	✓		✓			✓
7. Basic and	✓	✓	\checkmark		\checkmark			\checkmark
Advanced								
Infection Control								
in hepatic patient								
8. Statistics and								\checkmark
research								
methdology								
9. Evidence Based		✓		✓				
Medicine								
10. Information				✓				\checkmark
Technology								
Semester 2: Specialty Re	elated Anest	hesia Scier	nces					
1- Patient		\checkmark			\checkmark			
monitoring.								,
2- Perioperative	\checkmark	\checkmark	~		~			\checkmark
Emergences								
3- Anestnetic Management of	v	v	v	v	v	•	v	v
HPR Surgeries								
Part 1								
4. Preanesthetic	✓	✓	✓	✓	✓	✓	✓	✓
Evaluation								
Semester 3: Anesthetic	and Intensi	ve Care Ma	nagement of	HPB Surger	ies			
1. Liver Related	✓	✓	√	√	\checkmark	✓	✓	✓
Medical								
Sciences								
2. Anesthetic	✓	✓	✓	~	\checkmark	~	✓	\checkmark
Management of								
HPB Surgeries								
Part 2			1	1	1	1		
3. Intensive care	✓	✓	✓	✓	✓	✓	✓	✓
Patient								
Semester 4: Aposthetic	and Intensiv	ve Care May	nagement of	Liver Trancr	lant Surgeri	26		
1 Transplantation		e care Ma	nagement of		nant Surgern	±3 √		
Related Medical				Ţ		•		
Sciences								
2. Anesthetic	✓	√	\checkmark	✓	\checkmark	✓	√	\checkmark
Management of								
Liver Transplant								
Surgeries								
3. Liver Transplant				✓		✓	✓	✓
Intensive Care								

	General Skills												
Module	Program covered ILOs												
	2/3/2/A	2/3/2/B	2/3/2/C	2/3/2/D	2/3/2/E	2/3/2/F	2/3/2/G	2/3/2/H					
Semester 1: Basic Sciences + Elective Module													
1. Anatomy				✓									
2. Physiology				_ ✓									
3. Microbiology				✓				✓					
4. Pharmacology				✓				✓					
5. Clinical Pathology				✓				✓					
and Laboratory													
Testing			 			,	ļļ						
6. Basic Nutrition		✓	 			✓		✓					
7. Basic and					✓			~					
Advanced													
in heratic nationt													
 O Statistics and 							╂────┦						
o. Statistics and	Ť												
methodology													
9 Fvidence Based	✓	✓					++						
Medicine													
10. Information			1	\checkmark			1 1						
Technology													
Semester 2: Specialty Re	elated Anest	thesia Scier	nces	. <u></u> .	•								
1- Patient	\checkmark	✓	✓	\checkmark	✓	\checkmark	\checkmark						
monitoring.		L	L]					L					
2- Perioperative				✓		\checkmark							
Emergence.			ļ			,	ļ						
3- Anesthetic	✓	✓	\checkmark	\checkmark	✓	\checkmark	✓	~					
Management of													
HPD Sulgeries Part 1													
4 Preanesthetic	\checkmark	\checkmark			\checkmark	√	\checkmark	\checkmark					
Evaluation			1			-							
Semester 3: Anesthetic	and Intensi	ve Care Ma	inagement of	HPB Surger	ies		11						
1. Liver Related	✓	✓	√	√	\checkmark	✓	✓	✓					
Medical			1										
Sciences													
2. Anesthetic	✓	✓	~	✓	✓	\checkmark	✓	✓					
Management of			1										
HPB Surgeries			1										
Part 2			┟─────┦										
3. Intensive care			1	v	v	Ŷ	v	Ý					
Managemen			1										
Semester 4: Anesthetic	and Intensiv	ze Care Mai	nagement of	Liver Transr	plant Surgeri	es	<u> </u>						
1. Transplantation				✓		✓	<u>г</u>						
Related Medical			1										
Sciences			1										
2. Anesthetic	✓	✓	~	✓	✓	√	✓	✓					
Management of			1										
Liver Transplant			1										
Surgeries			ļļ										
3. Liver Transplant	V	v	v I	~	~	~	V	v					
Intensive Care		1 1	, I	1	1			1					

Module	Program covered II Oc									
Module	2/3/2/1	2/3/2/1	2/3/2/K	2/3/2/1	2/3/2/M	2/3/2/N	2/3/2/0			
Compater 1: Pagia Sajangan L	Elective M		2/3/2/1	2/3/2/2	2/3/2/14	2/3/2/14	2/3/2/0			
Semester 1: Dasic Sciences +		louule	.(
1. Anatomy	v		V		•					
2. Physiology	v		v		•					
3. Microbiology			•		•					
4. Pharmacology			√		∨					
5. Clinical Pathology and			✓		~					
Laboratory Testing			1							
6. Basic Nutrition	✓	✓	√ ∕	✓	√					
7. Basic and Advanced			~		\checkmark					
Infection Control in										
hepatic patient										
8. Statistics and reseach										
methodology										
9. Evidence Based										
Medicine		,								
10. Information Technology	\checkmark	\checkmark				\checkmark				
Semester 2: Specialty Related	Semester 2: Specialty Related Anesthesia Sciences									
1- Patient monitoring.	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
2- Perioperative			\checkmark		\checkmark					
Emergence.										
3- Anesthetic	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
Management of HPB										
Surgeries Part 1.		,			, ,					
4- Preanesthetic	✓	\checkmark	\checkmark		\checkmark	\checkmark				
Evaluation										
Semester 3: Anesthetic and I	ntensive (Lare Mana	agement of	HPB Surger	ies	/	1			
1. Liver Related Medical	~	✓	~	~	\checkmark	~	~			
Sciences		/		/		1				
2. Anesthetic	✓	~	✓	~	~	~	✓			
Management of HPB										
Surgeries Part 2							.(
3. Intensive care Patient	v	v	v	v	v	v	v			
Semester 4: Anosthetic and Intensive Care Management of Liver Transplant Surgeries										
1 Transplantation							<u> </u>			
I. ITANSPIANUUU Related Medical	, v	•	¥	*	•	*	v			
Sciences										
2 Anesthetic	\checkmark		\checkmark		✓					
Management of Liver					·					
Transplant Surgeries										
3. Liver Transplant	✓	\checkmark	✓	\checkmark	\checkmark	\checkmark	\checkmark			
Intensive Care										

General Skills (cont.)

(End of the program specifications)