



Erasmus

HPB and Liver Transplant  
Medicine Diploma



Assiut University



Faculty of Medicine

## Professional Diploma in Hepato- Pancreatico-Biliary Medicine

(According to currently applied credit points bylaws)

*Faculty of medicine  
Assiut University  
2019-2021/2021-2023*

<i>Contents</i>	
<i>Item</i>	<i>Page</i>
Program Specification For Diploma degree in Hepato-Pancreatico-Biliary Medicine 2019-2021/2021-2023	3
A. Basic Information	3
<b><u>B. Professional Information</u></b>	4
1. Program aims	
2. Intended learning outcomes (ILOs) for the whole program	
3. Program academic standards	
4. Program external references	
5. Program structure and contents	
6. Modules contents (Annex 1)	
7. Admission requirements	
8. Progression and completion requirements	
9. Assessment methods and rules	
10. Program evaluation	
11. Declaration	
<b>- <u>Annex 1, Modules/ specifications (Total =22 Modules)</u></b>	<b>16</b>
<b>Semester 1: Basic Science+ Elective Module</b>	<b>17</b>
1- Anatomy	18
2- Physiology	20
3- Microbiology and immunology	26
4- Pharmacology	30
5- Pathology	34
6- Clinical Pathology and molecular biology (genetics)	38
7- Basic nutrition	42
8- Statistics and Research Methodology	47
9- Evidence based Medicine	51
10-Information technology	55
11-Elective Modules (Hospital administration / Infection control/ Medical Ethics)	60
<b>Semester 2: Clinical supportive sciences</b>	<b>61</b>
1- Basic Hepatology (part 1)	61
2- Imaging	70
3- Intensive care patient Management	78
4- Basic Endoscopy	85
<b>Semester 3: Speciality Track</b>	<b>90</b>
1- Advanced Hepatology (part 2)	91
2- Pancreatico-biliary diseases.	101
3- Liver transplant Medicine.	110
<b>Semester 4: Advanced intervention and Applied Track</b>	<b>121</b>
1- Advanced Endoscopy.	122
2- Advanced Liver Intervention.	126
3- Post-transplant medical care.	134
<b>- <u>Annex 2, Program academic standards</u></b>	<b>143</b>
<b>- <u>Annex 3, Teaching methods</u></b>	<b>147</b>
<b>- <u>Annex 4, Assessment methods</u></b>	<b>149</b>
<b>- <u>Annex 5, Program evaluation tools</u></b>	<b>152</b>
<b>- <u>Annex 6 Matrixes:</u></b>	<b>154</b>
I- General Academic reference standards(GARS)for postgraduates versus Program ARS	155
1-Graduate attributes	
2-Academic Standards	
II-Program ARS versus program ILOs	161
III- Program Matrix.	166

## Diploma of Hepato-Pancreatico-Biliary and Liver Transplant Medicine

### A. Basic Information

**Program Title:** Professional Diploma degree in Hepato-Pancreatico-Biliary Medicine

**Nature of the program:** Single.

**Responsible Department:**

- Department of Tropical Medicine and Gastroenterology - Faculty of Medicine- Assiut University.
- Department of Internal medicine- Gastroenterology Unit - Faculty of Medicine- Assiut University.

Program Academic Director/advisory committee:	
Department of Tropical Medicine and Gastroenterology	Department of Internal medicine- Gastroenterology Unit
<ul style="list-style-type: none"><li>- Prof. Ashraf Mahmoud Osman</li><li>- Prof. Mohamed El-Tahir Abdel-Rahman</li><li>- Prof. Sherif Kamel</li></ul>	<ul style="list-style-type: none"><li>- Prof . Alaa Abdelmonem</li><li>- Prof . Mohamed Alyamany</li><li>- Prof Mohamed Zein</li></ul>

**Coordinator (s):**

**Principle coordinator:**

- Prof. Hussien Elameen
- Prof Nahed Makhoulouf

**Assistant coordinator (s)**

- Prof. Mohamed Mekky
- Prof. Hala Mostafa
- Prof. Elham Hassan
- Dr Mohamed Ezz
- Dr. Reem Ezzat

**Internal evaluators:**

Internal Evaluators	
Department of Tropical Medicine and Gastroenterology	Department of Internal medicine- Gastroenterology Unit
<ul style="list-style-type: none"><li>- Prof. Ahlam Mohamed Farghaly</li></ul>	<ul style="list-style-type: none"><li>- Prof. Enas Alkareemy</li></ul>

External evaluator: **Prof. Khiary Hammam Morsy / Sohag University**

Date of Approval of program specification by Assiut University Council : 30 / 3 /2021.

Date of Approval of program specification by the Ministry of Higher Education and Scientific Research and the Supreme Council of Universities: 1-11-2021.

**Total number of Modules: 20 (19 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 Medicine 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 Medicine 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, Microbiology, Pharmacology, Pathology, Anatomy, and Physiology, related to Hepato-pancreatico-biliary Medicine.
- B. Mention essential facts of clinically supportive sciences including Basics of clinical pathology and nutrition related to Hepato-pancreatico-biliary Medicine.
- C. Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Hepato-pancreatico-biliary Medicine.
- D. Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Hepato-pancreatico-biliary Medicine.
- E. Mention the basic ethical and medico-legal principles that should be applied in practice and are relevant to the Hepato-pancreatico-biliary Medicine.
- F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Hepato-pancreatico-biliary Medicine.
- 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 Hepato-pancreatico-biliary Medicine 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 Medicine.
- B- Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Hepato-pancreatico-biliary Medicine.
- 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 Medicine.
- D-Formulate management plans and alternative decisions in different situations in the field of Hepato-pancreatico-biliary Medicine.

## **2-3- Skills**

### **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 Medicine.
- C. Carry out patient management plans for common conditions related to Hepato-pancreatico-biliary Medicine.
- D. Decisions and patient education in common clinical situations related to Hepato-pancreatico-biliary Medicine.
- E. Perform competently non invasive and invasive procedures considered essential for Hepato-pancreatico-biliary Medicine.
- F. Provide health care services aimed at preventing health problems related to Hepato-pancreatico-biliary Medicine.
- G. Provide patient-focused care in common conditions related to Hepato-pancreatico-biliary Medicine, 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 own 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 Medicine**

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 Medicine, the master degree programs' academic standards for different clinical specialties were adopted.

These standards were re-revised and approved without changes by the Faculty Council on 27-11-2022.

### **4- Program External References (Benchmarks)**

**1. ACGME (Accreditation Council for Graduate Medical Education).**

**[http://www.acgme.org/acWebsite/navPages/nav\\_Public.asp](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 CP

**[Each 1 CP =30 hours=20 marks]**

Compulsory Modules: 98.3%

Elective Module: 2 credit point: 1.7%

	Credit Points CP	% from total
▪ Basic modules	28	23.3%
▪ Supportive applied modules	30	25%
▪ Specialized modules	30	23.3%
▪ Elective module	2	1.7%
▪ Advanced modules	30	25%
▪ Others ( Computer, ...)	1	0.8%
▪ Field training	41	34.2%
Total	120	100%

### **1<sup>st</sup> Semester: Basic science and elective modules**

- **Duration:** 6 months
- **Contents:** **Track 1:** Basic sciences modules (10 modules)  
**Track 2:** Elective module (1 module)

Modules	CPs	Marks	Hours
1- Anatomy	2	40	60
2- Physiology	3	60	90
3- Microbiology and immunology	5	100	150
4- Pharmacology	4	80	120
5- Pathology	4	80	120
6- Clinical Pathology and molecular biology (genetics)	4	100	150
7- Basic nutrition	2	40	80
8- Statistics and Research Methodology	2	40	60
9- Evidence based medicine	1	20	30
10- Information technology	1	20	30
11- Elective module*	2	40 (degrees not added)	80
Total	30	580	970

**S**

**\* Elective modules**



- Hospital administration
- Hospital Infection control
- Medical Ethics

**2<sup>nd</sup> Semester: Clinical supportive sciences**

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

Module	Intensive care patient management	Imaging	Basic Hepatology	Basic Endoscopy Upper / colonoscopy	Total
CP	5	5	10	10	30
Marks	100	100	200	200	600
Hours	150	150	300	300	900

**3<sup>rd</sup> Semester: Speciality Track**

- Duration: 6 months
- Contents:
- **Speciality Track:** (3 modules).

Module	Advanced Hepatology	Pancreatico-biliary Medicine	Liver Transplant Medicine	Total
CP	15	8	7	30
Marks	300	160	140	600
Hours	450	240	210	900

**4<sup>th</sup> Semester : Advanced intervention and Applied Track**

- Duration: 6 months.
- Contents: one track  
\_30 CP (3 modules)

Module	Advanced Endoscopy	Advanced liver interventions	Post Liver Transplant Care	Total
CP	10	10	10	30
Marks	200	200	200	600
Hours	300	300	300	900

### **C. Program Time Table**

#### **1- Duration of program 2 years divided into:**

- **1<sup>st</sup> 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.
- **2<sup>nd</sup> 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.
- **3<sup>rd</sup> and 4<sup>th</sup> Semesters: (1 year ).**
  - Program –related speciality 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 of compulsory Modules: 2360 marks.**

**Speciality Modules: 1800 marks.**

#### **For speciality Modules**

- Written exam: 40 %
- Clinical/practical: 30 %
- Oral exams: 30%
- Portfolio 25 % of degree for oral exams

## D. Curriculum Structure (modules):

Code No.	Module Title	CP	Student Workload					
			Lecture (1 lecture =3h)	Practical (1 day=6h)	Homework/ Assignment	Test Preparation	Private study #	Total Hours
<b>First semester (30 ECTS)</b>								
<b>Track 1: Basic sciences (10 modules)</b>								
1	Anatomy	2	15 (5 lect)	-	-	45	-	60
2	Physiology	3	15 (5 Lect)	-	-	60	15	90
3	Microbiology/immunology	5	30 (10 Lect)	-	-	90	30	150
4	Pharmacology	4	30 (10 Lect)	-	-	75	10	120
5	Pathology	4	30 (10 Lect)	-	-	60	30	120
6	Clinical Pathology and molecular biology	4	15 (5 Lect)	-	-	75	30	120
7	Basic nutrition	2	24	10	-	22	4	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
<b>Track 2 Elective module</b>								
11	Choose one of these 3 modules (Hospital administration / Infection control/ Medical Ethics))	2	Student Workload differ according module type					60
<b>Second semester: (30 ECTS)</b>								
<b>Clinical supportive sciences Track (4 modules)</b>								
	Basic Hepatology	10	60 (10 lect)	120 (20 days)	-	60	60	300
	Imaging	5	21 Hours 8 Lect	60 hours 10 days	-	50	19	150
	Intensive care patient Management	5	15 (5 lect)	60	-	60	15	150
	Basic Endoscopy	10	15 (5 Lect)	180 (30 days)	-	75	30	300

Third semester (30 ECTS):								
Speciality Track: (3 module).								
	Advanced Hepatology	15	60 (20 lectures)	120 (20 days)	-	180	90	450
	Pancreaticobiliary	8	30 (10 Lecture)	90 (15 days)	15	60	45	240
	Liver transplant Medicine	7	30 H	90	-	60H	30H	210
Fourth semester (30 ECTS)								
Advanced intervention and Applied Track: (3 module).								
	Advanced Endoscopy	10	15 (5 Lect)	180 (30 days)		75	30	300
	Liver interventions	10	15 (5 Lect)	180 (30 days)		75	30	300
	Post transplant care	10	30 (10 Lect)	150 (25 days)		100	30	300

**Student work load calculation:** One CP = 30 working contact hours (contact and non-contact).

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

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

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

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

1 active seminar/workshop = 1 CP = 30 h

1 passive attendance seminar /work shop/specialized conference = 1/2 CP= 15 h

### Weighting of assessments:

Modules			Degrees				Total marks
	Module code	CP	Degree				
			Written	Oral*	Practical Clinical	Portfolio *	
<b>First Semester</b>							
<b>Track 1: Basic sciences track ( 10 modules)</b>							
1. Anatomy	HBM401	2	20	10	-	10	40
2. Physiology	HBM403	3	40	10	-	10	60
3. Microbiology and Immunology	HBM407	5	60	30	-	10	100
4. Pharmacology	HBM406	4	50	20	-	10	80
5. Pathology	HBM405	4	50	20	-	10	80
6. Clinical Pathology	HBM431	4	50	20	-	10	80
7. Basic Nutrition	HBM409A	2	25	15		-	40
8. Statistics and Research Methodology	HBM440A#§	2	30	10			40
9. Evidence based Medicine	EDC400A	1	10 Assignment	-	10		20
10. Information Technology	-HBM440B§	1	-	-	20		20
<b>Track 2: Elective module</b>							
11. Choose one of these 3 modules (Hospital administration / Infection control/ Medical Ethics))		2	Distribution of degree according to module type				40
<b>Second Semester:</b>							
<b>Clinical supportive sciences Track (4 module )</b>							
1. Basic Hepatology	HBM440C	10	100	50	50	-	200
2. Imaging	HBM428A	5	40	-	40	20	100
3. Intensive care patient Management	HBM429	5	40	-	40	20	100
4. Basic Endoscopy	HBM440D	10	80 Assignment	-	80	40	200
<b>Third Semester:</b>							
<b>Speciality Track (3 modules)</b>							
1. Advanced Hepatology	HBM440E	15	150	75	75	-	300
2. Pancreatico-biliary	HBM440F	8	100	40	20	-	160
3. Liver transplant Medicine	HBM440G	7	80	40	20	-	140
<b>Fourth Semester:</b>							
<b>Advanced intervention and Applied Track (3 modules)</b>							
1. Advanced	HBM440H	10	80	-	80	40	200

Endoscopy			Assignment				
2. Liver Intervention	HBM428B	<b>10</b>	80	-	80	40	200
3. Post Transplant care	HBM440I	<b>10</b>	<b>100</b>	50	50	-	200

\* 25% of the oral exam for assessment of Portfolio in semester 2-4

Evidence based medicine, Information Technology, marks are calculated on attendance and active participation along with practical exams and Assignment according to module content.

\*10 marks for portfolio are added to the 1<sup>st</sup> six basic science module

## 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 :**

**I. General Requirements:**

- a. Master degree in the **Tropical Medicine and Gastroenterology or Internal Medicine with (Very Good) grade.**

**II. Specific Requirements:**

- a. Fluent in English (study language)

### **VACATIONS AND STUDY LEAVE**

The current departmental policy is to give working candidate 2 week 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 speciality 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)

Method	ILOs measured
<b>Written examinations:</b> Structured essay questions Objective questions: MCQ Problem solving	K & I
<b>Clinical:</b> Long/short cases OSCE	K , I, P &G skills
Structured oral	K , I &G skills
Portfolio assessment	All
Research assignment	I &G skills

## 10-Program evaluation

By whom	method	sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
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
▪ <b>Program Principle Coordinator:</b>	-Prof. Hussien Elameen -Dr. Mohamed A. Mekky		<b>5/2019</b>
<b>Program Academic Director/Advisory committee:</b>	- Prof. Ashraf Mahmoud Osma - Prof . Mohamed Alyamany		<b>5/2019</b>

# Annex 1, Specifications for Courses / Modules



# First semester Modules

## Basic Science Track

1. Anatomy
2. Physiology
3. Microbiology and immunology
4. Pharmacology
5. Pathology
6. Clinical Pathology and molecular biology (genetics)
7. Basic nutrition
8. Statistics and Research methodology
9. Evidence based Medicine
10. Information technology

## Elective Modules Track

One of the following

1. Hospital Administration
2. Infection Control
3. Medical Ethics

# Anatomy Module (I-1)

Name of department: **Anatomy**

Faculty of medicine Assiut University

## 1. Module data

- ✚ **Module Title:** Anatomy
- ✚ **Module code:** HBM401
- ✚ **Speciality:** Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ **Total CP=2 / total marks = 40 / Total hours= 60**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
2 CP	15 (5 lectures)	-	--	45	-	60
Percentage%	25%			75%		100%

- ✚ Department (s) delivering the Module: Anatomy Dep. in conjunction with Diploma coordinators.
- ✚ Coordinator (s):  
Staff members of Anatomy Department in conjunction with Staff members from both Tropical Medicine and Gastroenterology Department/  
Gastroenterology Unit, Internal Medicine 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 anatomy necessary for the Hepato-pancreatico-biliary diseases Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	<i>Methods of Evaluation</i>
<b>A1. Describe Principles of</b> <ul style="list-style-type: none"> <li>• Liver anatomy.</li> <li>• Anatomy of Pancreas</li> <li>• Anatomy of biliary system</li> <li>• Abdominal Vasculature</li> <li>• Congenital anomalies</li> </ul>	-Lectures	-Written and oral examination - Portfolio

#### 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 diseases and Liver Transplant Medicine.	Didactic (lectures, seminars, tutorial)	-Written exam -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	Portfolio

#### Interpersonal and Communication 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	Portfolio

### Professionalism

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

### Systems-Based Practice

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

## 4. Module content (topic s/modules/rotation Module Matrix

### Time Schedule: First semester

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Liver anatomy	A1	B1	-	D 1-D4
Pancreas	A1	B1	-	D 1-D4
Biliary anatomy	A1	B1	-	D 1-D4
Abdominal vasculature	A1	B1	-	D 1-D4
Congenital anomaly	A1	B1	-	D 1-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. Module assessment methods:**

- **Total Marks: 40**
- **Assessment tools:**  
Written (20 marks)  
Oral (10 marks)  
Portfolio (10 marks)
- **Time schedule:** At the end of the first semester

**8. List of references**

- **Lectures notes**
- **Essential books**
  - Gray's Anatomy of the Human Body (30th Edition)
  - Larsen's Human Embryology (5th ed.)
- **Periodicals, Web sites, ... etc: None**
- **others: None**

**9. Signatures**

Module Coordinator	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Physiology Module (I-2)

**Name of department: -Physiology-**  
**Faculty of medicine Assiut University**

## 1. Module data

- ✚ **Module Title: Physiology**
- ✚ **Module code: HBM403**
- ✚ **Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine.**
- ✚ **Total CP= 3/ Total marks : 60 /Total hours 90**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Seminar)	Total Hours
3 CP	15 hours (5 lectures)	--	--	60	15	90
Percentage%	16.5%	--	--	66.8%	16.7%	100

- ✚ **Department (s) delivering the module: Physiology in conjunction with Diploma coordinators.**
- ✚ **Coordinator (s):**  
 Staff members of physiology Dep. in conjunction with Staff members from both Tropical Medicine and Gastroenterology Department/ Gastroenterology Unit, Internal Medicine Department as annually approved by both Departments' councils.
- ✚ **Date last reviewed: 5/2019**
- ✚ **General requirements (prerequisites) if any:**  
 None
- ✚ **Requirements for 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 Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	<i>Methods of Evaluation</i>
<b>A 1. Describe Principles of:</b> <ul style="list-style-type: none"> <li>• Liver function with details of role of liver in metabolism</li> <li>• Bile synthesis, secretion and its function</li> <li>• Exocrine function of pancreas</li> <li>• Endocrine function of the pancreas</li> </ul>	-Lectures	-Written examination - Portfolio

#### 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 diseases and Liver Transplant Medicine.	Didactic (lectures, seminars, tutorial)	-Written 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	Portfolio

#### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D2. Work effectively with others.	-Observation and supervision -Written and oral communication	Portfolio Check list

### Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D3. Demonstrate a commitment to ethical principles	Senior Staff 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	360 global rating

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

### Module Matrix

#### Time Schedule: First semester

Topic	Covered ILOs			
	Knowle dge A	Intellectu al B	Practic al C	General D
- liver function with details of role of liver in metabolism	A1	B1	-	D 1-D4
- Exocrine function of pancreas	A1	B1	-	D 1-D4
- Endocrine function of the pancreas	A1	B1	-	D 1-D4
- Bile synthesis, secretion and its function	A1	B1	-	D 1-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:**

- **Total Marks: 60**
- **Assessment tools:**  
Written = 40 marks  
Portfolio =10 marks  
Oral =10 marks
- **Time schedule:** At the end of the first semester

**8. List of references**

- **Lectures notes**
- **Essential books**
  - Guyton and Hall of medical physiology
- **Periodicals, Web sites, ... etc: None**
- **others: None**

**9. Signatures**

Module Coordinator	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Microbiology and Immunology (I-3)

Name of department: Microbiology and Immunology

Faculty of medicine Assiut University 2019-2020

## 1. Module data

- ✚ Module Title: Microbiology and Immunology
- ✚ Module code: HBM407
- ✚ Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ Total CP=5 / Total marks=100 / Total hours =150

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Seminar)	Total Hours
5 CP	30 hours (10 lectures)	-	-	90	30	150
Percentage%	20%			60%	20%	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 with Staff members from both Tropical Medicine and Gastroenterology Department/ Gastroenterology Unit, Internal Medicine 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 microbiology and immunology necessary for the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	<i>Methods of Evaluation</i>
<b>A 1. Describe Principles of</b> - Viral Infections - Bacterial Infection - Fungal infection - Basics of immune response - Transplantation immunology - Tumour immunology - Immunological Tolerance	-Lectures	-Written and oral examination - Portfolio

#### 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 diseases and Liver Transplant Medicine.	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 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
D 4. 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

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
<ul style="list-style-type: none"> <li>- Principles of immune response</li> <li>- Viral Infections</li> <li>- Bacterial infections</li> <li>- Fungal infection</li> <li>- Transplantation immunology</li> <li>- Tumour immunology</li> <li>- Immunological Tolerance</li> </ul>	A1	B1	-	D1-D4
	A1	B1	-	D1-D4
	A1	B1	-	D1-D4
	A1	B1	-	D1-D4
	A1	B1	-	D1-D4
	A1	B1	-	D1-D4
	A1	B1	-	D1-D4
	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: 100**

Written =60

Oral =30

Portfolio = 10

**8. List of references**

**i. Lectures notes**

**ii. Essential books,**

- Microbiology: An Introduction 12th Edition
- Microbiology-Lippincott Williams & Wilkins (2012)

**iii. Periodicals, Web sites, ... etc: None**

**iv. others: None**

**9. Signatures**

**Module Coordinator**

<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Pharmacology Module (I-4)

Name of department: **Pharmacology**

Faculty of medicine Assiut University 2019-2020

## 1. Module data

- ✚ **Module Title: Pharmacology**
- ✚ **Module code: HBM406**
- ✚ **Specialty: Professional Diploma in the Hepato-pancreatico-biliary Medicine.**
- ✚ **Total CP= 4 / total marks: 80 / total hours 120**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Seminar)	Total Hours
4 CP	30 hours (10 lectures)	-	-	75	10	120
Percentage %	25%	-	-	56.7%	8.3 %	100%

- ✚ **Department (s) delivering the module : Pharmacology in conjunction with Diploma coordinators.**
- ✚ **Coordinator (s):**  
Staff members of Pharmacology Department in conjunction with Staff members from both Tropical Medicine and Gastroenterology Department/ Gastroenterology Unit, Internal Medicine 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 pharmacological aspects for the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<b>A1. Describe Principles of</b> - Drug resistance - Indications of chemoprophylaxis - Drugs used in portal hypertension - Antiviral agents - Chemotherapeutic agents for HCC - Immunosuppressive drugs	-Lectures	-Written and oral examination

#### B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
B1 . Correlates the facts of Pharmacology with the therapeutic management of common diseases related to the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.	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 Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D 2. 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 semester

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Drug resistance	A1	B1	-	D1-D4
- chemoprophylaxis	A1	B1	-	D1-D4
- Drugs used in portal hypertension	A1	B1	-	D1-D4
- Antiviral agents	A1	B1	-	D1-D4
- Chemotherapeutic agents	A1	B1	-	D1-D4
- Immunosuppressive drugs	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**

- Written =50
- Oral =20
- Portfolio =10

### 8. List of references

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

### 9. Signatures

**Module Coordinator**

<b>Module Coordinator</b>	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Pathology Module (I-5)

**Name of department:** Pathology

**Faculty of medicine** Assiut University

## 1. Module data

- ✚ **Module Title:** pathology
- ✚ **Module code:** HBM405
- ✚ **Speciality:** Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ **Total CP= 4 / total marks: 80 / total hours 120**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Seminar)	Total Hours
4 CP	30 hours (10 lectures)	-	-	60	30	120
Percentage%	25%	-	-	50%	25%	100%

- ✚ **Department (s) delivering the module:** Pathology in conjunction with Diploma coordinators.
- ✚ **Coordinator (s):**  
Staff members of Pathology Department in conjunction with Staff members from both Tropical Medicine and Gastroenterology Department/  
Gastroenterology Unit, Internal Medicine 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 pathology necessary for the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ Learning	Methods of Evaluation
<b>A 1. Describe Principles of</b> <ul style="list-style-type: none"> <li>- Pathology of hepatitis (acute and chronic)</li> <li>- Pathology of cirrhosis</li> <li>- Pathology of pancreatitis (acute and chronic)</li> <li>- Pathological aspects pancreatic tumors</li> <li>- Pathology of HCC</li> </ul>	-Lectures	-Written and oral examination - Portfolio

#### B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
B1. Correlates the facts of pathology with clinical reasoning, diagnosis and management of common diseases related to the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.	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 Skills

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

D3 -Elicit information using effective nonverbal, explanatory, questioning, and writing skills D4- Work effectively with others as a member of a health care team or other professional group	-Written and oral communication	Check list
--	---------------------------------	------------

### Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D5. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio

### Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6. 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

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Pathology of hepatitis (acute and chronic)	A1	B1	-	D1-D6
- Pathology of cirrhosis	A1	B1	-	D1-D6
- Pathology of pancreatitis (acute and chronic)	A1	B1	-	D1-D6
- Pathological aspects pancreatic tumors	A1	B1	-	D1-D6
- Pathology of HCC	A1	B1	-	D1-D6

## 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 part

### iii. Marks: 80

- **Written =50**
- **Oral =20**
- **Portfolio =10**

## 8. List of references

- **Lectures notes**
- **Essential books**
  - Robbins and cotran pathologic basis of diseases
  - *Text book of pathology Harsh Mohan*
- **Periodicals, Web sites, ... etc: None**
- **Others: None**

## 9. Signatures

### Module Coordinator

<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Clinical Pathology & molecular biology Module (I-6)

Name of department: **Clinical Pathology**

Faculty of medicine Assiut University 2019-2020

## 1. Module data

- ✚ **Module Title: Clinical Pathology**
- ✚ **Module code: HBM431**
- ✚ **Specialty: Professional Diploma in the Hepato-pancreatico-biliary Medicine.**
- ✚ **Total CP= 4/ total marks: 80 / total hours 120**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study Seminar	Total Hours
4 CP	15 hours (5 lectures)	-	-	75	30	120
Percentage%	12.5%			62.5%	25%	100%

- ✚ **Department (s) delivering the module: Clinical Pathology in conjunction with Diploma coordinators.**
- ✚ **Coordinator (s):**  
Staff members of Clinical Pathology Department in conjunction with with Staff members from both Tropical Medicine and Gastroenterology Department/ Gastroenterology Unit, Internal Medicine 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 clinical pathology necessary for the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<b>A 1. Describe Principles of</b> - Interpretation of liver function tests - Interpretation of viral hepatitis markers - Interpretation of ascitic fluid study - Bacteriologic reports - Interpretation of autoimmune diseases - Tumor markers of hepato-biliary pancreatic tumors - Genetic aspects of metabolic liver disease	-Lectures	-Written and oral examination - Portfolio

#### B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
B1 Correlates the facts of clinical pathology with clinical reasoning, diagnosis and management of common diseases related to the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.	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 Skills

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

### Systems-Based Practice

ILOs	Methods of teaching/ learning	of	Methods of Evaluation
D 4. 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

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Interpretation of liver function tests	A1	B1	-	D1-D4
- Interpretation of viral hepatitis marker	A1	B1	-	D1-D4
- Interpretation of ascitic fluid	A1	B1	-	D1-D4
- Bacteriologic reports	A1	B1	-	D1-D4
- Interpretations of autoimmune diseases	A1	B1	-	D1-D4
- Tumor markers of hepato-biliary pancreatic tumors	A1	B1	-	D1-D4
Genetic aspects of metabolic liver disease	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 part

**iii. Marks: 100**

- **Written =60**
- **Oral =20**
- **Portfolio =20**

**8. List of references**

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

**9. Signatures**

Module Coordinator	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Basic Nutrition Module (I-7)

Name of department: **Public Health and Community Medicine**

Faculty of medicine Assiut University 2019-2020

## 1. Module data

- + Module Title: Basic Nutrition
- + Module code: HBM409A
- + Specialty: Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- + Total CP= 2 (total hours 60)

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

Department (s) delivering the **Module**: Staff members of **Public Health** and Community Medicine Department in conjunction with **Staff members from both Tropical Medicine and Gastroenterology Department/ Gastroenterology Unit, Internal Medicine Department** as annually approved by both Departments' councils.

- + Coordinator (s):
  - Prof. Medhat Araby Khalil saleh
  - Assistant coordinator: Diploma coordinators
- + 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 Medicine, 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

ILOs	Methods of teaching/ Learning	<i>Methods of Evaluation</i>
<b>A1. Describe Principles of</b> <ul style="list-style-type: none"> <li>- Effect of chronic liver diseases on nutritional status and metabolism</li> <li>- Assessment of nutritional status in hepatic patients</li> <li>- Applying knowledge to calculate nutrients' requirements for hepatic patients</li> <li>- Nutritional therapy in NAFLD/NASH</li> <li>- Nutrition in acute liver disease</li> <li>- Nutritional guidelines in liver injuries</li> <li>- Nutrition in compensated liver cirrhosis and End-Stage Liver Disease.</li> <li>- Applied nutrition in patients with pancreatitis (both acute and chronic)</li> <li>- Nutrition in Gallbladder Diseases (stone &amp; Cholestasis)</li> <li>- Nutritional needs and interpretation in surgical patients (perioperative and postoperative) in hepato-biliary system</li> <li>- Role of parenteral nutrition in hepatic patients</li> </ul>	<ul style="list-style-type: none"> <li>- Lectures and discussion</li> <li>- Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>-Written and oral examination</li> </ul>

### B- Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
<b>B1. Formulate the facts of nutrition with clinical reasoning, diagnosis and management of common diseases related to the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.</b>	Didactic (lectures, seminars, tutorial)	<ul style="list-style-type: none"> <li>-Written and oral examination</li> <li>-Portfolio</li> </ul>

### C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
<b>C1. Obtain proper history and examine patients in caring and respectful behaviors.</b>	<ul style="list-style-type: none"> <li>-Lectures</li> <li>-Seminars</li> </ul>	OSCE Portfolio
<b>C2. Apply practical skills in the assessment of nutritional status of patients with hepatic-biliary pancreatic diseases.</b>	<ul style="list-style-type: none"> <li>- Practical application</li> <li>- Case studies</li> </ul>	<ul style="list-style-type: none"> <li>- Clinical work in outpatient &amp; inpatients</li> </ul>
<b>C3. Apply evidence based knowledge to calculate total</b>		

energy requirements of hepatic patients based on their physiological & nutritional states.	-Individual and group exercises	clinics -Portfolio -Practical Examination
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 teaching/ learning	Methods of Evaluation
D1. Identify the relation between clinical nutrition and health status of patients with hepato-biliary pancreatic diseases.	(Discussion and tutorial)	-Written and oral examination -Portfolio
D2. Appraises evidence from scientific articles related to nutrition of patients with hepato-biliary pancreatic diseases.	Observation and supervision  Written and oral communications.	-Critical appraisal

#### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D3. Maintain therapeutic and ethically sound relationship with patients.	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list
D4. Work effectively with others as a member of a health care team		
D5. Counsel 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

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

### 5. Methods of teaching/learning:

1. Didactic (lectures, Discussion, Demonstrations, seminars, tutorial)
2. Observation and supervision
3. Case studies and presentations
4. Clinical work in inpatients and outpatients clinics
5. Written & oral communication
6. 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:

1. Extra Didactic (lectures, discussion, seminars, tutorial) according to their needs
2. 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

i. **Periodicals, Web sites, ... etc: Journals of clinical nutrition**

ii. **others: American Liver Foundation <http://www.liverfoundation.org>**

### 9. Signatures

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

# Statistics and Research Methodology (I-8)

Name of department: **Public Health**

Faculty of Medicine Assiut University 2019-2020

## 1. Module data

- **Module Title: Statistics and Methodology**
- **Module code: HBM440A#§**
- **Specialty: Professional Diploma in the Hepato-pancreatico-biliary Medicine, Total CP= 2 / total marks 40 / total hours 60**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical / Clinical	Homework	Test Preparation	Other Private study	Total Hours
1 CP	14 hours (7lectures)	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 C**

- **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 diseases and Liver Transplant Medicine. 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 understanding

ILOs	Methods of teaching/ learning	<i>Methods of Evaluation</i>
A1- Define statistical population – samples. A2- List types of random samples. A3- Define and list types of variables. A4- Describe measurement 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 teaching/ learning	Methods of Evaluation
C1- Use statistical package to manipulate and analyze medical data. C2- Use sampling software to calculate and select the appropriate sample size. C3- Apply the scientific approach to select the appropriate statistical method.	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Practical skill assessment



### D- General and Transferable Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D1- Develop Creativity and imagination skills, Self-assessment ability and Critical thinking and analytic ability. D2- Use information to Support the ability of thinking in the field of statistical probability. 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.	-Observation and supervision -Written and oral communication	Oral Exam Portfolio

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

#### Time Schedule: First semester

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

research questions				
- Multiple Regression				
- Logistic Regression				

**5. Methods of teaching/learning:**

1. Didactic (lectures, seminars, tutorial)
2. Written & oral communication and discussions to assess general and 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 first semester

**iii. Marks: 10**

- Written examination

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

**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 univariate and multivariate data 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**







<b>Module Coordinator</b>	
<b>Dr. ....</b>	<b>Head of Department: .....</b>
<b>Date: .....</b>	<b>Date: .....</b>

# Evidence based medicine (I-9)

## 1. Module data

-  **Module Title: Evidence Based Medicine**
-  **Module code: EDC400A**
-  **Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine**
-  **Total CP= 1 / total marks : 20 / total hours 30**

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

-  **Department (s) delivering the Module: Education development center**
-  **Coordinator (s):**
  - **Module coordinator: Ahmad Makhlouf**
-  **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 teaching/ Learning	<i>Methods of Evaluation</i>
A1. Define evidence based medicine and the steps of evidence based practice. A2. Recognize the leaking pipeline of evidence and explain barriers to transfer evidence in clinical practice.	Didactic Team based Journal club	Written and assignment portfolio

#### B- Intellectual outcomes

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

#### C- Practical skills

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

#### D- General Skills

#### Practice-Based Learning and Improvement

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

#### 4. Module contents (Module Matrix)

##### Time Schedule: First semester

Topic	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 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**

<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Information Technology [1-10]

**Name of Department:** Electrical Engineering Department

**Faculty of medicine Assiut University 2019- 2022**

## 1. Module data

- ✚ **Module Title:** Information Technology
- ✚ **Module code:** HBM440B§
- ✚ **Speciality:** Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ **Total CP= 1 / total marks: 20 / total hours 30**

Credit Points	Hours for student Workload/Semester					
	Tutorial	Practical	Homework	Test Preparation	Other Private study	Total Hours
1 CP	2 hours (Tutorial)	22 hours	6	-	-	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- Knowledge and understanding

ILOs	Methods of teaching/ learning	<i>Methods of Evaluation</i>
<b>A. Describe Principles of</b> 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)	- Tutorial	- Portfolio

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

#### Interpersonal and Communication Skills

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

### Professionalism

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

### Systems-Based Practice

ILOs	Methods of teaching/ learning	of	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

Topic	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

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

### 7. Module 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: .....

# First semester Modules

## Elective Track

1. Hospital Administration
2. Infection control
3. Medical Ethics

Specification in a separate book

# **Second Semester Modules**

## **Clinical supportive sciences**

- 1- Basic Hepatology**
- 2- Imaging**
- 3- Intensive care patient management**
- 4- Basic Endoscopy**

# Basic Hepatology Module (II-1)

Name of department: **Tropical Medicine and Gastroenterology & Internal Medicine Gastroenterology Unit**

Faculty of medicine Assiut University 2019-2020

## 1. Module data

- ✚ Module Title: Basic Hepatology
- ✚ Module code: HBM440C
- ✚ Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ Number of ECTS: 10 CPS / 300 hours/ 200 marks

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Seminar)	Total Hours
10 CPS	30 (10 Lect)	120 20 days)	-	90	60	300
Percentage%	1 CP 10%	4 CPS 40%		3 CPS 30%	2 CPS 20%	100%

- ✚ Department (s) delivering the Module: Internal medicine in conjunction with Tropical Medicine and gastroenterology.
- ✚ Coordinator (s):
- ✚ Staff members of: Tropical Medicine and Gastroenterology in conjunction with Internal medicine (GIT unit)
- ✚ Date last reviewed: April 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 Basic Hepatology necessary for the Hepato-pancreatico-biliary Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ Learning	Methods of Evaluation
<p>A 1. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions:</p> <ul style="list-style-type: none"> <li>- Acute hepatitis &amp; acute liver cell failure.</li> <li>- Toxic hepatitis.</li> <li>- Management of hepatitis C.</li> <li>- Management of hepatitis B.</li> <li>- Autoimmune Liver disease.</li> <li>- Primary biliary cholangitis and Primary sclerosing cholangitis</li> <li>- Liver cirrhosis and cholestasis</li> <li>- Hepatic encephalopathy</li> <li>- Ascites and SBP and HRS</li> <li>- Hepatocellular carcinomas.</li> </ul>	-Lectures	<ul style="list-style-type: none"> <li>-Written exam</li> <li>- Oral examination</li> <li>- Portfolio</li> </ul>
<p>A2. Mention the principles of:</p> <ul style="list-style-type: none"> <li>- Assessment of liver disease severity (Child score and MELD).</li> <li>- Portal Hypertension.</li> <li>- Management of variceal bleeding.</li> <li>-Paracentesis.</li> </ul>		
<p>A3. State update and evidence based Knowledge of :</p> <ol style="list-style-type: none"> <li>1. Acute hepatitis &amp; Acute liver cell failure.</li> <li>2. Toxic hepatitis.</li> <li>3. Management of hepatitis C.</li> <li>4. Management of hepatitis B.</li> <li>5. Autoimmune Liver disease.</li> <li>6. Primary biliary cholangitis and Primary sclerosing cholangitis.</li> <li>7. Liver cirrhosis and cholestasis.</li> <li>8. Hepatic encephalopathy</li> <li>9. Ascites and SBP and HRS.</li> <li>10.Hepatocellular carcinomas</li> <li>11. Portal Hypertension.</li> <li>12.Management of variceal bleeding .</li> </ol>		
<p>A4. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Hepatology</p>		

Basic.		
A5. Mention the basic ethical and medico legal principles relevant to the Hepatology basics.		
A6. Mention the basics of quality assurance to ensure good clinical care in Hepatology Basic.		
A7. State the impact of common health problems in the field of Hepatology Basic on the society and how good clinical practices improve these problems.		

### 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 Hepatology Basic.	Clinical rounds Senior staff experience	Procedure/case presentation Portfolio
B2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Hepatology Basic.		
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 Hepatology Basic.		
B4-Formulate management plans and alternative decisions in different situations in the field of the Hepatology Basic.		

### C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in caring and respectful behaviors in clinical diseases and common condition related to A1.	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations	OSCE Portfolio - MCQ exam
C2. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations	Clinical round with senior staff	-Procedure presentation Portfolio



related to conditions mentioned in A.A. -Ascitic fluid chemical Analysis and culture	Observation Post graduate teaching.	- Chick lists
C3. Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A. - Ascitic fluid chemical Analysis and culture.	Clinical rounds with senior staff	Procedure presentation Portfolio - Chick list
C4. Perform the following non invasive/invasive diagnostic or therapeutic procedures. - Abdominal US (Under supervision). - Diagnostic and therapeutic paracentesis	Clinical round with senior staff -Perform under supervision of senior staff	Procedure presentation Portfolio - Chick list
C5. Prescribe the following non invasive/invasive therapeutic procedures: -Prescribe proper treatment for conditions in A1	Clinical round with senior staff	-Procedure presentation - Portfolio - Chick list
C6. Carry out patient management plans for common conditions related to Hepatology Basic.	Clinical round with senior staff	
C7. Use information technology to support patient care decisions and patient education in common clinical situations related to Hepatology Basic.		
C8. Provide health care services aimed at preventing health problems related to Hepatology Basic like: -Delayed diagnosis of neoplastic liver diseases. -Hospital acquired infections in cirrhotic patients. - Prevention of SBP in hospitalized patient and after GIT bleeding.		
C9. Provide patient-focused care in common conditions related to Hepatology Basic, while working with health care professionals, including those from other disciplines like: - Hepatobiliary pancreatic and liver transplant surgery. - Radiology.		

- Anaesthesia and Endoscopy Staff.		
C10-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	of	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	and oral	Oral Exam Portfolio
D2- Facilitate learning of junior students and other health care professionals.	Clinical rounds Senior staff experience	staff	

#### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	of	Methods of Evaluation
D3. Maintain therapeutic and ethically sound relationship with patients.	Clinical round Seminars Case presentation		Global rating Procedure/case presentation Portfolios Check list
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 in common problems related to Hepatology basic.	Clinical round Seminars		Clinical Exam
D8. Write a report in common condition mentioned in A1.	-Observation and supervision -Written and oral	and oral	Oral Exam Portfolio Check list

	communication	
D9. Council patients and families about - Prognosis of Hepatic encephalopathy. - Prognosis of GIT bleeding in Liver Cirrhosis -Different treatment modalities in vascular liver disease.	Clinical round with senior staff	

### Professionalism

ILOs	Methods of learning	Methods of Evaluation
D10. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience Case taking	1. Objective structured clinical examination 2. Patient survey
D11. 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
D12. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		1. Objective structured clinical examination 2. 360o global rating

### Systems-Based Practice

ILOs	Methods of learning	Methods of Evaluation
D13. 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: Second semester**

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical Skills C	General Skills D
Acute hepatitis & Acute liver cell failure.	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Toxic hepatitis.	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Management of hepatitis C.	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Management of hepatitis B	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Autoimmune Liver disease.	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Primary biliary cholangitis and Primary sclerosing cholangitis	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Liver cirrhosis and cholestasis	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Hepatic encephalopathy	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Ascites and SBP and HRS	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Hepatocellular carcinomas.	A1,A3, A4-A7	B1-B4	C1-C10	D1-D13
Assessment of liver disease severity (Child score and MELD).	A2, A4-A7	B1-B4	C1-C10	D1-D13
Portal Hypertention.	A2,A3, A4-A7	B1-B4	C1-C10	D1-D13
Management of variceal bleeding	A2,A3, A4-A7	B1-B4	C1-C10	D1-D13
Paracentesis.	A2, A4-A7	B1-B4	C1-C10	D1-D13

**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 Semester 2

**iii. Marks: 200**

- **Written exam =100**
- **Oral= 50**
- **Clinical = 50**

## 8. List of references

**i. Lectures notes**

**ii. Essential books**

- Sherlock's Diseases of the Liver and Biliary System, 13th Edition, 2018.

**iii. Recommended books:**

- Yamda's Textbook of Gastroenterology, 2 volume set, 6<sup>th</sup> Edition, 2015
- Sleisenger and Fordtran's Gastrointestinal and Liver Disease 2 volume - 10<sup>th</sup> 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	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Imaging Module (II-2)

**Name of department: Radiology Department**

**Faculty of medicine Assiut University 2019-2022**

## 1. Module data

- Module Title: Hepato-pancreatico-biliary Imaging**
- Module code: HBM428A**
- Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine.**
- Number of ECTS: 5**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical/ Clinical	Homework/ Assignment	Test Preparation	Other Private study (Workshop or conference)	Total Hours
5 CP	21 Hours 8 Lect	60 hours 10 days	-	50	19	150
Percentage%	14%	40%	-	33.3%	12.7%	100%

- Departments delivering the Module: Radiology Department in conjunction with Diploma coordinators.**
- Coordinator (s):**  
Staff members of Radiology Department in conjunction with Tropical Medicine and Gastroenterology/ Internal Medicine Departments as annually approved by both departments' councils
- Date last reviewed: 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 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 pancreatico-biliary diseases and enabling the candidates of making appropriate referrals to a sub-specialist.
2. Provide candidates with fundamental knowledge and skills of imaging in dealing with critically ill patients with pancreatico-biliary diseases.
- 3-To give opportunities to evaluate and manage pancreatico-biliary diseases.
- 4-To learn candidates to develop skills for using and interpreting diagnostic tools (as abdominal US, CT, MRCP, EUS, etc--- ).

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A 1. Describe the radiological feature by US/CT/MRI of the following diseases:</p> <ul style="list-style-type: none"> <li>- Diffuse liver diseases</li> <li>-Fatty liver</li> <li>- Liver cirrhosis</li> <li>-Focal various liver lesions (solid and cystic)</li> <li>-vascular liver disease.</li> <li>- Bile duct obstruction and GB diseases</li> <li>- Pancreatitis (acute &amp; chronic)</li> <li>- Pancreatic focal lesions</li> </ul>	<p>Didactic;</p> <ul style="list-style-type: none"> <li>- Lectures</li> <li>- Seminars</li> </ul> <p>Clinical rounds, rotations</p>	<ul style="list-style-type: none"> <li>- Written, clinical, oral examination</li> <li>- OSCE, OSPE</li> <li>- Portfolio</li> </ul>
<p>A2. Describe the principles of:</p> <ul style="list-style-type: none"> <li>-Basic and physics of abdominal ultrasound</li> <li>-Indication, contraindication of Abdominal US, CT scan, MRI, angiography and PET scan</li> <li>- Doppler assessment of the porto-systemic circulation</li> <li>- Cholangiography: direct/Indirect cholangiography, Intravenous cholangiography , Spiral CT, MRCP.</li> <li>- Abdominal hepatic angiography</li> </ul>		
<p>A3. State update and evidence based Knowledge of:</p> <p>Doppler assessment of the porto-systemic circulation</p> <p>CT scan of Normal liver, biliary channels, and pancreas</p> <p>-MRI of normal liver, biliary channels and pancreas and MRCP</p>		
<p>A4. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to imaging of hepatopancreaticobiliary system</p>		
<p>A5. Discuss the basic ethical and medicolegal principles that should be applied in practice and are relevant to the use of abdominal US, CT, and MRI in</p>		

diagnosing and guiding therapy of hepato-pancreatico-biliary diseases. And means of avoiding excess radiation exposure.		
A6. Mention the basics of quality assurance to ensure good clinical care during using US, CT, and MRI in diagnosing and guided therapy in the field of hepato-pancreatico-biliary diseases.		
A7. State the impact of common health problems in the field of imaging the hepato-pancreatico-biliary diseases on the society and how good clinical practices improve these problems.		

### 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 radiological feature of hepato-pancreatico-biliary diseases.	Lectures US, CT, MRI procedure rooms Observation and practice Senior staff experience	Procedure/case presentation - Portfolio
B 2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to hepato-pancreatico-biliary diseases.		
B3. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems and its radiological feature of hepato-pancreatico-biliary diseases.		
B4-Formulate management plans and alternative decisions in different situations in post liver transplant patients.		

### C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in	Didactic;	- Written,



<p>caring and respectful behaviors during performing radiological imaging technique A1, A2, A3.</p>	<ul style="list-style-type: none"> <li>- Lectures</li> <li>- Seminars</li> <li>Post graduate teaching</li> <li>Hand on workshops</li> <li>Senior staff experience</li> <li>Clinical rounds, rotations</li> </ul>	<p>clinical, oral examination</p> <ul style="list-style-type: none"> <li>- OSCE,</li> <li>OSPE</li> <li>- Portfolio</li> </ul>
<p>C2. Order and Interpret the following non invasive/invasive imaging procedures</p> <ul style="list-style-type: none"> <li>-Routine appropriate imaging investigations related to conditions mentioned in A1</li> <li>- X ray abdomen.</li> <li>- Abdominal Ultrasonography</li> <li>- CT abdomen</li> <li>- MRCP</li> <li>- Cholangiography</li> <li>-Angiography</li> </ul>		
<p>C 3. Prescribe the following non invasive/invasive therapeutic procedures:</p> <ul style="list-style-type: none"> <li>- Prescribe proper treatment for conditions mentioned in A.A,</li> </ul>		-
<p>C4. Carry out patient management plans for common conditions related to Hepato-pancreatico-biliary diseases.</p>		
<p>C5. Use information technology to support patient care decisions in imaging related to Hepato-pancreatico-biliary diseases.</p>		
<p>C6. Provide health care services aimed at preventing health problems related to imaging inhepato-pancreatico-biliary diseases like:</p> <ul style="list-style-type: none"> <li>- Allergy from contrast material</li> <li>-Haemorrhage from intervention radiology</li> </ul>		
<p>C7. Provide patient-focused care in common conditions related to hepato-pancreatico-biliary diseases , while working with health care professionals, including those from other disciplines like: Conditions mentioned in A.A.</p>		

C8. Write competently all forms of patient charts and sheets including radiological 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
<i>D1-Use information technology to manage information, access on-line medical information; and support their own education</i>	-Observation and supervision -Written and oral communication	Oral Exam Portfolio
D2.Appraises evidence from scientific studies(journal club)	-Journal clubs - Discussions in seminars and clinical rounds	
D3. Facilitate learning of junior students and other health care professionals.	Clinical rounds Senior staff experience	

#### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D4. Maintain therapeutic and ethically sound relationship with patients.	Clinical round Seminars Case presentation	Global rating Procedure/case presentation Portfolios Check list
D5. Work effectively with others as a member of a health care team or other professional group.		
D6. Present a case in common problems related to hepato-pancreatico-biliary diseases and show its radiological features.	Clinical round Seminars	Clinical Exam
D7. Write a radiological report in common condition mentioned in A1	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list

D8. Council patients and families about: - Pre-procedure instructions. -Post procedure precautions - Prognosis of the medical illness	Clinical rounds with senior staff	
--	-----------------------------------	--

### Professionalism

ILOs	Methods of learning	Methods of Evaluation
D9. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio
D10. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience Case taking	1. Objective structured clinical examination 2. Patient survey

### Systems-Based Practice

ILOs	Methods of learning	Methods of Evaluation
D11. Work effectively in relevant health care delivery settings and systems.	-Observation Senior staff experience	360o global rating
D12. Assist patients in dealing with system complexities.		1. 360o global rating 2. Patient survey

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

### Time Schedule: Second semester

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	Genera l Skills D
Basic and physics of abdominal ultrasound	A2, D4-D7	B1-B4	C1-C8	D1-D12
-Indication, contraindication of Abdominal US, CT scan, MRI, angiography and PET scan	A2, D4-D7	B1-B4	C1-C8	D1-D12
US of Normal liver, hepato-biliary channels, and pancreas	A1, D4-D7	B1-B4	C1-C8	D1-D12
Doppler assessment of the	A1, A3, D4-D7	B1-B4	C1-C8	D1-D12

porto-systemic circulation				
Echofree, hypoechoic , hyperechoic lesions	A1, D4-D7	B1-B4	C1-C8	D1-D12
US of diffuse and focal pathology of liver, biliary channels and pancreas	A1, D4-D7	B1-B4	C1-C8	D1-D12
CT scan of Normal liver, biliary channels, and pancreas	A1, D4-D7	B1-B4	C1-C8	D1-D12
MRI of normal liver, biliary channels and pancreas	A1, D4-D7	B1-B4	C1-C8	D1-D12
-Arteriography: indication, contraindications, complications, focal lesions, diffuse hepatic diseases, therapeutic infusion	A2, D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of Diffuse liver diseases	A1 , D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of focal liver lesions	A1 , D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of Hepatic cysts.	A1, D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of vascular liver disease.	A1, D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of Malignant liver tumors.	A3, D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of biliary channels obstruction	A1, A3 , D4-D7	B1-B4	C1-C8	D1-D12
Radiological features ofPancreatitis (acute& chronic)	A1 , A3, D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of Gallstone disease and Choledocholithiasis	A1, A3 , D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of Benign and malignant biliary strictures	A1, A3 , D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of Cystic lesions of the pancreas	A1, A3 , D4-D7	B1-B4	C1-C8	D1-D12
Radiological features of Pancreas adenocarcinoma and ampullary cancer	A1, A3 , D4-D7	B1-B4	C1-C8	D1-D12

Radiological features of Neuroendocrine tumors of pancreas	A1, A3 , D4-D7	B1-B4	C1-C8	D1-D12
--	----------------	-------	-------	--------

**5 Methods of teaching/learning:**

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. 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
- Practical(OSCE/OSPE)
- Portfolio

**ii. Time schedule:** At the end of the second trimester

**iii. Marks:** 100 ( 40 written, 40 Practical, 20 Portfolio)

**8. List of references**

- **Lectures notes**
- **Recommended books**
  - Hepatology Textbook and Atlas, Editors: Erwin Kuntz, Hans- Dieter Kuntz. Link.spinger.com
  - MRI of the liver. 2<sup>nd</sup> Edition. Editors: Günther Schneider, Luigi Grazioli, Sanjay Saini. (Spriger-Verlag Italia 2003, 2006 printed in Italy. Library of the Congress Control Number: 2005937525.)
  - Liver imaging: MRI with CT correlation.Editors: Ersan Altun, Mohamed El-azzazi, Ritchard C Semelka. (Print ISBN: 9780470906255 online. 2015 John Wiley & Sons, Inc)
- **Periodicals, Web sites, ... etc:**
  - American Journal of Radiology
- **Others: None**

**9. Signatures**

<b>Module Coordinator</b>	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

## Intensive care patient management (II-3)

**Name of department:** Anesthesia and intensive care

**Faculty of medicine Assiut University 2019-2020**

### 1. Module data

- ✚ **Module Title:** Intensive care patient Management
- ✚ **Module code:** HBM429
- ✚ **Speciality:** Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ **Total CP= 5 / total marks: 100 / total hours 150**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical	Homework	Test Preparation	Other Private study (Seminar)	Total Hours
5 CP	15 (5 Lect)	60 (10 days)	-	60	15	150
Percentage%	10%	40%	-	40%	10%	100%

- ✚ **Department (s) delivering the module:** Anesthesia and intensive care in conjunction with Diploma coordinators.
- ✚ **Coordinator (s):**  
Staff members of Anesthesia and intensive care Department in conjunction with in conjunction with Tropical Medicine and Gastroenterology/ Internal Medicine Departments 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 general Intensive Care Patient Management principles necessary for the intensive care management for Hepato-pancreatico-biliary and Liver Transplant Medicine.
- 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 teaching/ learning	<i>Methods of Evaluation</i>
<b>A 1. Describe Principles of</b> <ul style="list-style-type: none"> <li>- Intensive care management of comatosed patients</li> <li>- Mechanical ventilation</li> <li>- Renal replacement therapy</li> <li>- Management of electrolyte imbalance</li> <li>- Intensive Care Management of Patients with Acute-on-Chronic Liver Failure (ACLF).</li> <li>- Intensive Care Management of Patients with Acute liver failure.</li> <li>- Arteial Blood Gases</li> </ul>	<ul style="list-style-type: none"> <li>- Didactic</li> <li>- Lectures</li> <li>- Seminars</li> </ul>	<ul style="list-style-type: none"> <li>-Written and oral examination</li> <li>- Portfolio</li> </ul>
<b>A2. State update and evidence based Knowledge and ventilatory strategies in</b> <ul style="list-style-type: none"> <li>• ARDS</li> <li>• Sepsis</li> </ul>		
<b>A3. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Intensive Care.</b>		
<b>A4. Mention the basic ethical and medicolegal principles relevant that should be applied in practice and are related to Intensive Care.</b>		

#### B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
<b>B1. Correlates the facts of Intensive care patient management related to the Hepato-pancreatico-biliary and Liver Transplant Medicine.</b>	<ul style="list-style-type: none"> <li>- Didactic (lectures, seminars, tutorial)</li> <li>- Clinical</li> </ul>	<ul style="list-style-type: none"> <li>-Written and oral examination</li> <li>-Portfolio</li> </ul>

	practice rounds - 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 teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic (lectures, seminars, tutorial) -Outpatient -Inpatient -Case presentation -Direct observation	- Portfolio - Checklist -Objective structure clinical examination (OSCE)
C2. Order the following non-invasive and invasive diagnostic procedures ☑ CVP ( order) ☑ Arterial blood gases ☑ Investigations	-Clinical round with senior staff -Observation -Post graduate teaching -Hand on workshops	-Procedure presentation - Portfolio - Checklist
C3. Interpret the following non-invasive and invasive diagnostic procedures ☑ Hemodynamic Monitoring ☑ ABGs	-Clinical round with senior staff -Observation - Post graduate teaching -Hand on	- Portfolio - Checklist



	workshops	
<p>C4. Perform the following non-invasive and invasive diagnostic and therapeutic procedures</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> airway management</li> <li><input type="checkbox"/> ABG sampling</li> <li><input type="checkbox"/> CVP measurement</li> <li><input type="checkbox"/> Ventilator adjustment</li> <li><input type="checkbox"/> Chest care</li> </ul>	<p>-Clinical round with senior staff</p> <p>-Observation Post graduate teaching</p> <p>-Hand on workshops</p>	<p>- Portfolio</p> <p>- Checklist</p>
<p>C5. Prescribe the following non-invasive and invasive therapeutic procedures :</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Syringe pump adjustment</li> <li><input type="checkbox"/> Intubation</li> </ul>	<p>-Clinical round with senior staff</p> <p>-Perform under supervision of senior staff</p>	<p>- Procedure presentation</p> <p>- Portfolio</p> <p>- Checklist</p>
<p>C6. Carry out patient management plans for common conditions related to Intensive care patient management</p>	<p>-Clinical round with senior staff</p> <p>-Perform under supervision of senior staff</p>	<p>- Portfolio</p> <p>- Checklist</p>
<p>C7. Use information technology to support patient care decisions and patient education in common clinical situations related to Intensive care patient management</p>	<p>-Clinical rounds with senior staff</p> <p>-Seminars</p> <p>-Direct observation of procedural skills</p>	<p>- Portfolio</p> <p>- Checklist</p>
<p>C8. Provide health care services aimed at preventing health problems related Intensive care patient management like:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/>Hospital acquired pneumonia</li> <li><input type="checkbox"/>Ventilator associated respiratory tract infection</li> <li><input type="checkbox"/>Bed sores</li> <li><input type="checkbox"/>Deep venous thrombosis</li> <li><input type="checkbox"/>GIT bleeding</li> <li><input type="checkbox"/>Psychological disturbances of the patients</li> <li><input type="checkbox"/>Healthcare associated pneumonia</li> </ul>	<p>-Clinical rounds with senior staff</p> <p>-Seminars</p> <p>-Direct observation of procedural skills</p>	<p>- Portfolio</p> <p>- Checklist</p>
<p>C9. Provide patient-focused care in common conditions related to Intensive</p>	<p>-Clinical rounds with senior</p>	<p>-Portfolio</p> <p>- Checklist</p>

Care, while working with health care professionals, including those from other disciplines	staff -Seminars -Direct observation of procedural skills	
C10. 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)	-Didactic; -Clinical rounds with senior staff	-Portfolio - Checklist

### 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	Portfolio

#### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D2. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	-Observation and supervision -Written and oral communication	Portfolio Check list
D3-Work effectively with others as a member of a health care team or other professional group		
D4. Write a report: <ul style="list-style-type: none"> <li>• Patients' medical reports</li> <li>• Death report</li> <li>• Hemodynamics</li> </ul>	Senior staff experience	
D5. Counsel patients and families about <ul style="list-style-type: none"> <li>• Symptoms of critical illness</li> <li>• Methods of management</li> </ul>	-Perform under supervision of senior staff	

### Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6. Demonstrate a commitment to ethical principles	Senior Staff Experience	Portfolio

### Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D7. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating
D8. Practice cost-effective health care and resource allocation that does not compromise quality of care.		

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

### Time Schedule: First semester

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Intensive care management of comatosed patients	A1, A3,A4	B1-B3	C1-C10	D1-D8
- Mechanical ventilation	A1, A3,A4	B1-B3	C1-C10	D1-D8
- Renal replacement therapy	A1, A3,A4	B1-B3	C1-C10	D1-D8
- Management of electrolyte imbalance	A1, A3,A4	B1-B3	C1-C10	D1-D8
- Intensive Care Management of Patients with Acute-on-Chronic Liver Failure (ACLF).	A1, A3,A4	B1-B3	C1-C10	D1-D8
- Intensive Care Management of Patients	A1, A3,A4	B1-B3	C1-C10	D1-D8

with Acute liver failure				
- Arteial Blood Gases	A1, A3,A4	B1-B3	C1-C10	D1-D8
- Sepsis	A2, A3,A4	B1-B3	C1-C10	D1-D8
- ARDS	A2, A3,A4	B1-B3	C1-C10	D1-D8

**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
- Practical
- Portfolio

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

**iii. Marks: 100 (40 written - 40 Practical- 20 Portfolio)**

**8. List of references**

- **Lectures notes**  
**Essential books:** 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**

<b>Module Coordinator</b>	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Basic Endoscopy (II-4)

**Name of department:** Tropical Medicine and Gastroenterology/ Internal Medicine Departments (Gastroenterology Unit)

**Faculty of medicine Assiut University 2019-2020**

## 1. Module data

- Module Title:** Basic Endoscopy
- Module code:** HBM440D
- Speciality:** Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- Total CP= 10 / total marks : 200 / total hours 300**

Credit Points	Hours for student Workload/Semester					
	Lecture	Practical	Homework	Test Preparation	Other Private study	Total Hours
<b>10 CP</b>	15 (5 Lect)	180 (30 days)	-	75	30	300
<b>Percentage%</b>	5%	60%	-	25%	10%	100%

- Department (s) delivering the module:** Internal Medicine Department (Gastroenterology unit) in conjunction with Tropical Medicine and Gastroenterology Department in conjunction with Diploma coordinators.
- Coordinator (s):**  
Staff members of Internal Medicine Department (Gastroenterology unit) in conjunction with Tropical Medicine and Gastroenterology 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 identify different techniques and role of upper endoscopy and colonoscopy as therapeutic and diagnostic methods for management of **Hepato-pancreatico-biliary** diseases and Liver Transplant Medicine.

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ Learning	Methods of Evaluation
<p><b>A1. Describe Principles of</b></p> <p>I- Preparation for safe and effective endoscopy</p> <p>II- Sedation related to endoscopic procedure</p> <p>III- Indications for diagnostic upper GIT Endoscopy</p> <p>IV-Relative Contraindications.</p> <p>V-Details related to upper GIT Endoscopy:</p> <ul style="list-style-type: none"> <li>A. Endoscopic request</li> <li>B. Equipment</li> <li>C. Patient Preparation and monitoring</li> <li>D. Procedure</li> <li>E. Examination of the esophagus</li> <li>F. Examination of the Stomach</li> <li>G. Examination of the duodenum</li> <li>H. Mucosal biopsy and tissue sampling</li> <li>I. Endoscopic reporting</li> </ul> <p>VI-Complications of upper GIT Endoscopy and their management</p> <p>VII. Recognition of Different lesions</p>	<p>-Lectures</p> <p>-Simulator</p>	<p>-Written and oral examination</p> <p>- Portfolio</p>
<p><b>A2- Describe Principles of :</b></p> <p>1-Indications for diagnostic lower GIT Endoscopy</p> <p>2- Contraindications (absolute and relative)</p> <p>3-Details related to lower GIT Endoscopy</p> <ul style="list-style-type: none"> <li>A. Endoscopic request</li> <li>B. Equipment</li> <li>C. Preparation of the colon</li> <li>D. Procedure (insertion, landmarks, withdrawal)</li> <li>E. Colonoscopic biopsy</li> <li>F. Handling tissue specimens</li> </ul>		

G. Endoscopic reporting 4-Complications of lower GIT Endoscopy and their management 5- Recognition of Different lesions		
A3- Describe principals of: Disinfection and Sterilization		
A4- Describe the basic ethical and medico-legal principles relevant to Gastrointestinal Endoscopy and consent.		

### B- Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
B1. Correlates the facts of the usage of endoscopy with diagnosis and treatment of HPB diseases.	Didactic (lectures, seminars, tutorial)	-Written and oral examination -Portfolio

### C- Practical skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C1. Perform:  1. Diagnostic upper GIT endoscopy 2. Diagnostic lower GIT endoscopy	Hands-on training sessions	-Written and oral examination -Portfolio - Work in Endoscopy room
C2 -Write competently endoscopy report.	Senior staff experience	

### 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 Skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
D2. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list
D3-Work effectively with others as a member of a health care team or other professional group		
D4- Council Patient about complications of endoscopy		

### Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D5. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio

### Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6. 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: Second semester

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Upper Endoscopy	A1, A3,A4	B1	C1-C2	D1-D6
Lower endoscopy	A2, A3,A4	B1	C1-C2	D1-D6



### 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:

- Portfolio
- Written
- practical

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

- **iii. Marks: 200 ( 80 Assignment, 80 practical, 40 Portfolio)**

### 8. List of references

- **Lectures notes**

Essential books: Clinical Gastrointestinal Endoscopy 3rd Edition 2018(<https://www.elsevier.com/books/clinical-gastrointestinal-endoscopy/chandrasekhara/978-0-323-41509-5>)

- Practical Gastrointestinal Endoscopy: The Fundamentals, 6th Edition, 2011.
- Atlas of GIT endpscopy (The 5th Edition of the Atlas for GI Endoscopy (Fascinating Images for Clinical Education; FICE) 2012
  - **Periodicals, Web sites, ... etc: None**
  - **Others: None**

### 9. Signatures

#### Module Coordinator

<b>Module Coordinator:</b> .....		<b>Head of the Department:</b> .....	
<b>Date:</b> .....		<b>Date:</b> .....	

# **Third Semester Modules**

## **Advanced Speciality Track**





- 1- Advanced Hepatology**
- 2- Pancreatico-biliary diseases.**
- 3- Liver transplant Medicine**

## 4- Advanced Hepatology Module (III-1)








**Name of Departments:** *Tropical Medicine and Gastroenterology Department and Gastroenterology Unit, Internal Medicine Department.*

**Faculty of medicine - Assiut University (2019-2020).**

### 1. Module data

-  **Module Title:** Hepatology Advanced.
-  **Module code:** HBM440E
-  **Speciality:** Professional Diploma in the Hepato-pancreatico-biliary Medicine.
-  **Number of ECTS:** 15 /300 degree/450H

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Seminar or conference or journal club)	Total Hours
15 CPS	60 (20 lectures)	120 (20 days)	-	180	90	450
Percentage%	13.3%	26.7%	-	40%	20%	100%

-  **Department (s) delivering the module:** Tropical Medicine and Gastroenterology Department in conjunction with *Gastroenterology Unit, Internal Medicine Department.*
-  **Coordinator (s):**
-  **Staff members of** Tropical Medicine and Gastroenterology Department in conjunction with Internal Medicine Department (*Gastroenterology Unit*)
-  **Date last reviewed:** April 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 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 Hepatology advanced medicine and enabling the candidates of making appropriate referrals to a sub-specialist in Hepato-pancreatico-biliary Medicine.
2. Provide candidates with fundamental knowledge and skills of dealing with critically ill patients with problems related to *Hepatology advanced*.
- 3-To demonstrate the ability to provide patient-centered care that is appropriate, compassionate, and effective for treatment of problems related to Hepatology advanced and the promotion of health.
- 5-To give opportunities to evaluate and manage a broad variety of problems related to Hepatology advanced.

## 3. Intended learning outcomes (ILOs):

### A- Knowledge and understanding

ILOs	Methods of teaching/ Learning	Methods of Evaluation
<p>A1. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions:</p> <ul style="list-style-type: none"> <li>- Acute on chronic liver failure.</li> <li>- Hepatopulmonary syndrome.</li> <li>- Portopulmonary hypertension.</li> <li>- Management of ectopic varices.</li> <li>- NAFLD (Fatty liver and NASH).</li> <li>- Assessment of liver fibrosis: invasive, non invasive (laboratory and machines as Fibroscan and others).</li> <li>- Vascular diseases of the liver (portal, splenic, mesentric vein thrombosis, budd chiari syndrome, veno occlusive disease)</li> <li>- Cirrhotic cardiomyopathy.</li> <li>- Hepatic tumors other than HCC:               <ul style="list-style-type: none"> <li>• Benign liver lesions.</li> <li>• Cholangiocarcinoma.</li> <li>• Metastasis of the liver.</li> </ul> </li> <li>- Liver in systemic diseases.</li> <li>- Genetic/ Metabolic and infiltrative liver disease.               <ul style="list-style-type: none"> <li>• Wilson disease.</li> <li>• Alpha 1 antitrypsin deficiency.</li> </ul> </li> </ul>	<p>Didactic;</p> <ul style="list-style-type: none"> <li>-Lectures</li> <li>-Clinical rounds</li> <li>-Seminars</li> <li>-Clinical rotations</li> </ul>	<ul style="list-style-type: none"> <li>- MCQ examination</li> <li>-Oral and written exam</li> <li>-OSCE.</li> <li>Portfolio</li> </ul>

<ul style="list-style-type: none"> <li>• Hemochromatosis.</li> <li>• Sarcoidosis</li> <li>• Amyloidosis.</li> <li>• Glycogen storage diseases..</li> </ul> <p>- Liver disease in pregnant women.</p> <p>- IBD and cholestatic diseases.</p> <p>- Caroli syndrome (Congenital hepatic fibrosis and Caroli disease)</p> <p>- Infective liver diseases:</p> <ul style="list-style-type: none"> <li>• Shistosomiasis.</li> <li>• Fascioliasis.</li> <li>• Protozoal liver disease.</li> <li>• Fungal and bacterial liver diseases.</li> <li>• Liver abscess.</li> <li>• Infective cholangitis.</li> <li>• Non hepatotropic viral liver diseases.</li> </ul>		
<p>A2. Mention the principles of:</p> <ul style="list-style-type: none"> <li>- Anesthesia and Peri-operative assessment of hepatic patient.</li> <li>-Assessment of surgical risk in liver cirrhosis.</li> <li>- Intensive Care Management of Patients with Acute-on-Chronic Liver Failure (ACLF).</li> <li>- Intensive care and prognosis scoring systems.</li> <li>- Haematological changes in liver diseases and liver in haematological disorders.</li> <li>-Cardiac diseases and the liver/shock liver.</li> <li>-Liver and Kidney.</li> <li>-Sarcopenia in Liver Cirrhosis and Hepatic osteodystrophy.</li> </ul>		
<p>A3. State update and evidence based Knowledge of :</p> <ul style="list-style-type: none"> <li>- Vascular diseases of the liver.</li> <li>- Assessment of liver fibrosis: invasive, non invasive (laboratory and machines as Fibroscan and others).</li> <li>- Acute on chronic liver failure.</li> <li>- Guidelines in the management of portal hypertension.</li> <li>- Guidelines in the management NAFLD (Fatty liver and NASH)</li> </ul>		
<p>A4. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Hepatology Advanced.</p>		
<p>A5. Mention the basic ethical and medicolegal principles relevant to the Hepatology Advanced.</p>		

A6. Mention the basics of quality assurance to ensure good clinical care in Hepatology Advanced.		
A7. State the impact of common health problems in the field of Hepatology Advanced on the society and how good clinical practices improve these problems.		

### 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 Hepatology advanced.	Clinical rounds Senior staff experience	Procedure/case presentation - Portfolio
B2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Hepatology advanced.		
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 Hepatology advanced.		
B4-Formulate management plans and alternative decisions in different situations in the field of the Hepatology advanced.		

### C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in caring and respectful behaviors in clinical diseases and common condition related to A1	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations	OSCE Portfolio - MCQ exam
C2. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A.A. -Abdominal Ultrasonography and Doppler. -CT abdomen. - Dynamic MRI with diffusion.	Clinical round with senior staff Observation Post graduate teaching Hand on	-Procedure presentation Portfolio - Chick lists

-Liver function testing. -Upper and lower endoscopy.	workshops	
C3. Interpret the following non invasive/invasive diagnostic procedures -Abdominal Ultrasonography and Doppler. -CT abdomen. - Dynamic MRI with diffusion. -Liver function testing. -Upper and lower endoscopy.	Clinical round with senior staff	Procedure presentation Portfolio - Chick list
C4. Perform the following non invasive/invasive diagnostic or therapeutic procedures. (Under supervision) - Abdominal US. - Liver Biopsy. -Liver abscess aspiration under US guidance. - Alcohol injection.	Clinical round with senior staff -Perform under supervision of senior staff	Procedure presentation Portfolio - Chick list
C5. Prescribe the following non invasive/invasive therapeutic procedures: -Prescribe proper treatment for conditions in A.A - Anticoagulants in vascular liver disease.	Clinical round with senior staff	-Procedure presentation - Portfolio - Chick list
C6. Carry out patient management plans for common conditions related to Hepatology advanced.	Clinical round with senior staff	
C7. Use information technology to support patient care decisions and patient education in common clinical situations related to Hepatology advanced.		
C8. Provide health care services aimed at preventing health problems related to Hepatology advanced like: -Delayed diagnosis of neoplastic liver diseases. - Hazards of anesthesia and risk of surgery in hepatic patient. -Hospital acquired infections.		
C9. Provide patient-focused care in common conditions related to Hepatology advanced, while working with health care professionals, including those from other disciplines like: - Hepatobiliary pancreatic and liver transplant surgery. - Radiology. - Anaesthesia and Intensive care.		
C10-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/ 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 Chick list
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 to Hepatology advanced.	Clinical round Seminars	Clinical Exam
D11. Write a report: - Patients medical report. -Abdominal ultrasonography report.	Senior staff experience	Chick list
D12. Council patients and families about -Screening of hepatic tumors. - Prognosis of hepatic tumors. -Different treatment modalities in vascular liver disease.	Clinical round with senior 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	1. OSCE 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		1. OSCE 2. 360o 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.		1. 360o global rating 2. Patient survey

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

### Module Matrix

#### Time Schedule: Third semester

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
- Acute on chronic liver Failure	A1,A3,A4-A7	B1-B4	C1-C10	D1-D18
- Hepatopulmonary syndrome.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Portopulmonary hypertention	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Management of ectopic varices.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- NAFLD (Fatty liver and NASH)	A1,A3,A4- A7	B1-B4	C1-C10	D1-D18
- Cirrhotic Cardiomyopathy	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Assessment of fibrosis	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Other hepatic tumors: <ul style="list-style-type: none"> <li>• Benign liver lesions.</li> <li>• Cholangiocarcinoma.</li> <li>• Metastasis of the liver.</li> </ul>	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Wilson disease.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Alpha 1 antitrypsin deficiency.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Hemochromatosis.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Sarcoidosis.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Amyloidosis	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Glycogen storage disease.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Liver disease in pregnant women.	A1, A4- A7	B1-B4	C1-C10	D1-D18
- IBD and cholestatic diseases.	A1, A4-A7	B1-B4	C1-C10	D1-D18
- Caroli syndrome (Congenital hepatic fibrosis and Caroli disease)	A1, A4-A7	B1-B4	C1-C10	D1-D18
- Vascular diseases of the liver. (portal, splenic, mesentric vein thrombosis, budd chiari syndrome, veno occlusive disease)	A1,A3, A4- A7	B1-B4	C1-C10	D1-D18

- Liver in systemic diseases	A1, A4- A7	B1-B4	C1-C10	D1-D18
- Infective liver diseases <ul style="list-style-type: none"> <li>• Shistosomiasis.</li> <li>• Fascioliasis.</li> <li>• Protozoal liver disease.</li> <li>• Fungal and bacterial liver diseases.</li> <li>• Liver abscess.</li> <li>• Infective cholangitis.</li> <li>• Non hepatotropic viral liver diseases.</li> </ul>	A1, A4- A7	B1-B4	C1-C10	D1-D18
-Liver biopsy.	A1- A7	B1-B4	C1-C10	D1-D18
-Assessment of surgical risk in liver cirrhosis	A2,A4- A7	B1-B4	C1-C10	D1-D18
- Anesthesia and Peri-operative assessment of hepatic patient.	A2,A4-A7	B1-B4	C1-C10	D1-D18
- Intensive Care Management of Patients with Acute-on-Chronic Liver Failure (ACLF). - Intensive care and prognosis scoring systems.	A2,A4-A7	B1-B4	C1-C10	D1-D18
- Blood diseases and the liver.	A2,A4-A7	B1-B4	C1-C10	D1-D18
- Liver and Kidney.	A2,A4-A7	B1-B4	C1-C10	D1-D18
- Cardiac diseases and the liver/shock liver.	A2,A4-A7	B1-B4	C1-C10	D1-D18
-Sarcopenia in Liver Cirrhosis and Hepatic osteodystrophy.	A2,A4-A7	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
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:

- Written and clinical, oral examination
- Portfolio
- Objective structure clinical examination (OSCE)
- Objective structure practical examination (OSPE)
- Check list evaluation of live or recorded performance

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

### iii. Marks: 300 ( 150 written, 75 oral, 75 practical )

## 8. List of references

### i. Lectures notes

### ii. Essential books

- 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

### iii. Recommended books:

- Yamda's Textbook of Gastroenterology, 2 volume set, 6<sup>th</sup> Edition, 2015
- Sleisenger and Fordtran's Gastrointestinal and Liver Disease 2 volume - 10<sup>th</sup> 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: April, 2019.	Date: April, 2019.

# Pancreaticobiliary diseases Module (III-2)

Name of department: **Tropical Medicine and Gastroenterology Department and Gastroenterology Unit, Internal Medicine Department.**

Faculty of medicine Assiut University 2019-2020

## 1. Module data

- ✚ Module Title: Pancreatico-biliary diseases
- ✚ Module code: HBM440F
- ✚ Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ Number of ECTS : 8/ 240 H, 160 degree

Credit Points	Hours for student Workload/Semester					Total Hours
	Lecture	Practical/ Clinical	Homework/ Assignment	Test Preparation	Other study (Seminar or conference)	
8 CP	1CP 30 hours	3CPS 90 hours	0.5 CP 15 H	2 CPs 60 H	1.5 CP 45 H	240
Percentage%	12.5%	37.5%	6.25%	25%	18.75%	100%

- ✚ Departments delivering the module: Tropical Medicine and Gastroenterology, and Internal Medicine in conjunction with Diploma coordinators.
- ✚ Coordinator (s):  
Staff members of Tropical Medicine and gastroenterology and Internal Medicine Departments as annually approved by both departments' councils
- ✚ Date last reviewed: April 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 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 pancreatico-biliary diseases and enabling the candidates of making appropriate referrals to a sub-specialist.
2. Provide candidates with fundamental knowledge and skills of dealing with critically ill patients with pancreatico-biliary diseases.
- 3- To demonstrate the ability to provide patient-centered care that is appropriate, compassionate, and effective for treatment of pancreatico-biliary diseases.
- 4-To give opportunities to evaluate and manage pancreatico-biliary diseases.
- 5-To learn candidates to develop skills for using and interpret diagnostic tools (as abdominal US, MRCP, EUS, etc--- ).

### 3. Intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p><b>A1. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions:</b></p> <ul style="list-style-type: none"> <li>- Cholecystitis (acute &amp; chronic)</li> <li>- Pancreatitis (acute &amp; chronic)</li> <li>- Gallstone disease and Choledocholithiasis</li> <li>- Biliary infections and Cholangitis</li> </ul>	<p>Didactic;</p> <ul style="list-style-type: none"> <li>- Lectures</li> <li>- Seminars</li> </ul> <p>Clinical rounds, rotations</p>	<ul style="list-style-type: none"> <li>- Written, clinical, oral examination</li> <li>- OSCE, OSPE</li> <li>- Portfolio</li> </ul>
<p><b>A2. Describe the principles of:</b></p> <ul style="list-style-type: none"> <li>- Portal biliopathy</li> <li>- Motility disorders and Postcholecystectomy syndrome</li> <li>- Biliary tract cysts (Choledochal cysts)</li> <li>- Benign biliary strictures</li> <li>- Benign biliary tumors</li> <li>- Malignant biliary tumors (Gallbladder cancer, Cholangiocarcinoma)</li> <li>- Cystic lesions of the pancreas (non-mucinous)</li> <li>- Mucinous tumors of the pancreas</li> <li>- Pancreas adenocarcinoma and ampullary cancer</li> <li>- Neuroendocrine tumors of pancreas</li> <li>- Imaging (Diagnostic and Interventional)</li> <li>- Diagnosis and management of pancreatic insufficiency</li> <li>- Nutritional management in pancreatobiliary diseases</li> <li>- Perioperative patient care in pancreatobiliary surgery: from preoperative assessment to ERAS (Enhanced Recovery After Surgery)</li> </ul>		
<p><b>A3. State update and evidence based Knowledge of</b></p> <ul style="list-style-type: none"> <li>- Cholecystitis</li> <li>- Biliary infections and Cholangitis</li> <li>- Pancreatitis</li> <li>- Guidelines in the management of pancreatic insufficiency (or pancreatitis)</li> </ul>		

A4. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to pancreatco-biliary diseases.		
A5. Mention the basic ethical and medicolegal principles relevant to the pancreatco-biliary diseases		
A6. Mention the basics of quality assurance to ensure good clinical care in pancreatco-biliary diseases		
A7. State the impact of common health problems in the field of pancreatco-biliary diseases on the society and how good clinical practices improve these problems.		

### 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 the pancreatco-biliary diseases.	- Didactic (lectures, seminars, tutorial) - Senior staff experience - Clinical rounds, rotations	- case presentation - Written and oral examination - Portfolio
B2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to pancreatco-biliary diseases.		
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 pancreatco-biliary diseases.		
B4. Formulate management plans and alternative decisions in different situations in the field of the pancreatco-biliary disease.		

### C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in caring and respectful behaviors.	Didactic; - Lectures	- Written, clinical, oral

	- Seminars Post graduate teaching Hand on workshops Senior staff experience Clinical rounds, rotations	examination - OSCE, OSPE - Portfolio
C2. Order and Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to conditions mentioned in A1 - X ray abdomen. - Abdominal Ultrasonography - CT abdomen - MRCP - ERCP		
C3. Prescribe the following non invasive/invasive therapeutic procedures: - Prescribe proper treatment for conditions mentioned in A1.		-
C4. Carry out patient management plans for common conditions related to pancreatico-biliary diseases.		
C5. Use information technology to support patient care decisions and patient education in common clinical situations related to pancreatico-biliary diseases.		
C6. Provide health care services aimed at preventing health problems related to pancreatico-biliary diseases like: - Delayed diagnosis of inflammatory and neoplastic pancreatico-biliary tract - Complication of cholecystitis. - Complications of gall bladder diseases. - Complications of pancreatitis.		
C7. Provide patient-focused care in common conditions related to Gastroenterology, while working with health care professionals, including those from other disciplines like: Conditions mentioned in A1.		
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 (share in audit and risk management activities and use Portfolio).	- Case log - Observation and supervision - Written & oral communication	- case presentation - Clinical, oral exam - Portfolios
D2. Appraises evidence from scientific studies (journal club)	-Journal clubs - Discussions in seminars	
D3. Conduct epidemiological Studies and surveys.		
D4. Perform data management including data entry and analysis using information technology, access on-line medical information; and support their own education.		

#### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D5. Maintain therapeutic and ethically sound relationship with patients.	- Seminars, Lectures Case presentation Hand on workshops - Observation and supervision - Written and oral communication Clinical rounds	case presentation Clinical Exam Portfolios

D6. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.		
D7. Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
D8. Work effectively with others as a member of a health care team or other professional group.		
D9 Present a case in common problems related to pancreatico-biliary diseases.	Clinical round Seminars	
D10. Write a report : -Patients medical report -Abdominal ultrasonography report, endoscopy report -Death report	Senior staff experience	
D11. Council patients and families about: - risk factors and complications of cholecystitis - complications of pancreatitis - diet in pancreatico-biliary diseases	Clinical round Senior staff experience	

### Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D12. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience Case taking	clinical exam Patient survey Portfolio
D13. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices		
D14. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities		

### Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D15. Work effectively in relevant health care delivery settings and systems including good administrative and time management.	Observation Senior staff experience	360° global rating

D16. Practice cost-effective health care and resource allocation that does not compromise quality of care.		Check list evaluation of live or recorded performance
D17. Assist patients in dealing with system complexities.		360° global rating Patient survey

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

##### Module Matrix

#### Time Schedule: Semester 3

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Cholecystitis (Acute & chronic)	A1,A3, A4-A7	B1-B4	C1-C8	D1-D17
Pancreatitis (Acute & chronic)	,A3, A4-A7	B1-B4	C1-C8	D1-D17
Gallstone disease and Choledocholithiasis	,A3, A4-A7	B1-B4	C1-C8	D1-D17
Portal biliopathy	A2, A4-A7	B1-B4	C1-C8	D1-D17
Motility disorders and Postcholecystectomy syndrome	A2, A4-A7	B1-B4	C1-C8	D1-D17
Biliary tract cysts (Choledochal cysts)	A2, A4-A7	B1-B4	C1-C8	D1-D17
Benign biliary strictures	A2, A4-A7	B1-B4	C1-C8	D1-D17
Benign biliary tumors	A2, A4-A7	B1-B4	C1-C8	D1-D17
Malignant biliary tumors (Gallbladder cancer, Cholangiocarcinoma)	A2, A4-A7	B1-B4	C1-C8	D1-D17
Cystic lesions of the pancreas (non-mucinous)	A2, A4-A7	B1-B4	C1-C8	D1-D17
Mucinous tumors of the pancreas	A2, A4-A7	B1-B4	C1-C8	D1-D17
Pancreas adenocarcinoma and ampullary cancer	A2, A4-A7	B1-B4	C1-C8	D1-D17

Neuroendocrine tumors of pancreas	A2, A4-A7	B1-B4	C1-C8	D1-D17
Imaging (Diagnostic and Interventional)	A2, A4-A7	B1-B4	C1-C8	D1-D17
Diagnosis and management of pancreatic insufficiency	A2,A3, A4-A7	B1-B4	C1-C8	D1-D17
Nutritional management in pancreatobiliary diseases	A2, A4-A7	B1-B4	C1-C8	D1-D17
Perioperative patient care in pancreatobiliary surgery: from preoperative assessment to ERAS (Enhanced Recovery After Surgery)	A2, A4-A7	B1-B4	C1-C8	D1-D17
Guidelines in management of Pancreatic insufficiency (or chronic pancreatitis)	A2,A3, A4-A7	B1-B4	C1-C8	D1-D17
Updates	A3	B1-B4	C1-C8	D1-D17

### **5. Methods of teaching/learning:**

1. Didactic (lectures, seminars, tutorial)
2. Outpatient
3. Inpatient
4. Case presentation
5. Direct observation
6. journal club
7. Critically appraised topic.
8. Educational prescription
9. Clinical rounds
10. Clinical rotation
11. Senior staff experience
12. Case log
13. Observation and supervision
14. Written & oral communications
15. Hand on work shop
16. Postgraduate teaching

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

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

## 7. Assessment methods

### i. Assessment tools:

- Written and clinical, oral examination
- Portfolio
- Objective structure clinical examination (OSCE)
- Objective structure practical examination (OSPE)
- Patient survey
- 360o global rating
- Check list evaluation of live or recorded performance

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

iii. Marks: 160(100 written, 40 oral, 20 practical)

## 8. List of references

- Lectures notes
- Recommended books
  - *Sherlock's Diseases of the Liver and Biliary System*, 13th Edition
  - *Sleisenger and Fordtran's Gastrointestinal and Liver Disease*
  - *Surgical Diseases of the Pancreas and Biliary Tree* Editors: Dr. Savio George Barreto and Prof. John A. Windsor (Springer Nature Singapore Pte Ltd. 2018, Library of Congress Control Number: 2018942638)
- Periodicals, Web sites, ... etc:
- others: None

## 9. Signatures

### Module Coordinator

<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

# Liver transplant Medicine module (III-3)

Name of Departments: **Tropical Medicine and Gastroenterology Department and Gastroenterology Unit, Internal Medicine Department.**

Faculty of medicine Assiut University 2019-2020.

## 1. Module data

- ✚ Module Title: Liver Transplant Medicine.
- ✚ Module code: HBM440G
- ✚ Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ Number of ECTS: 7

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Attendance of workshop or Conference related to liver transplantation, Seminar attendance and/ or presentation, Hospital works)	Total Hours
7 CP	1 CP 30 H	3 CPS 90 H	-	2 CPS 60H	1 CP 30H	210 H
Percentage%	14.3%	42.85%	-	28.55%	14.3%	00%

- ✚ Department (s) delivering the module: Tropical Medicine and Gastroenterology Department in conjunction with *Gastroenterology Unit, Internal Medicine Department.*
- ✚ Coordinator (s):
- ✚ Staff members in Tropical Medicine and Gastroenterology Department in conjunction with Internal Medicine Department (*Gastroenterology Unit* who are in liver transplantation team.
- ✚ Date last reviewed: April 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 acquire a 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 Liver Transplantation Medicine and enabling the candidates of making appropriate referrals to a sub-specialist in Liver Transplantation Medicine.
2. Provide candidates with fundamental knowledge and skills of dealing with critically ill patients with problems related to Transplantation Medicine.
- 3-To demonstrate the ability to provide patient-centered care that is appropriate, compassionate, and effective for treatment of problems related to Transplantation Medicine and the promotion of health.
- 5-To give opportunities to evaluate and manage a broad variety of problems related to Liver Transplantation Medicine.
- 6- To understand the indications, contraindications and referral criteria for liver transplantation.
- 7- To recognize the pre-transplant work-up for the recipient and donor.

## 3. Intended learning outcomes (ILOs):

### A- Knowledge and understanding

ILOs	Methods of teaching/ Learning	Methods of Evaluation
<p>A1. Describe the etiology, clinical picture, diagnosis and management of the following diseases and clinical conditions:</p> <ul style="list-style-type: none"> <li>- Monitoring the patient awaiting liver transplantation.</li> <li>- Management of portal hypertension.</li> <li>- Management of renal disease in the liver transplant candidate.</li> <li>- Management of hepatopulmonary syndrome and portopulmonary hypertension.</li> <li>- Fulminant hepatic failure and liver transplantation.</li> <li>- Viral hepatitis and transplantation (HCV &amp; HBV management pre transplantation )</li> <li>- Cholestatic and autoimmune liver disease and transplantation.</li> <li>- Hepatocellular carcinoma and transplantation.</li> <li>- Cholangiocarcinoma and transplantation.</li> <li>- Metabolic liver diseases and transplantation.</li> <li>- Living-donor liver transplantation.</li> <li>- Critical care of the liver transplant recipient.</li> </ul>	<p>Didactic;</p> <ul style="list-style-type: none"> <li>-Lectures</li> <li>-Clinical rounds</li> <li>-Seminars</li> <li>-Clinical rotations</li> </ul>	<ul style="list-style-type: none"> <li>- MCQ examination</li> <li>-Oral and written exam</li> <li>-OSCE.</li> <li>Portfolio</li> </ul>

- Transmission of malignancies and infection through donor organs.		
A2. Mention the principles of: <ul style="list-style-type: none"> <li>- Indications, contraindications and pre-operative assessment and timing for transplantation.</li> <li>- Psychiatric and substance abuse evaluation of the potential liver transplant recipient.</li> <li>- Organ allocation in liver transplantation: ethics, organ supply, and evidence based practice.</li> <li>- Rare indications of liver transplantation.</li> <li>- Vaccination in liver transplant candidate.</li> <li>- Nutrition in liver transplant candidate.</li> <li>- Work up and preparation for donor and Recipient.</li> </ul>		
A3. State update and evidence based Knowledge of : <ul style="list-style-type: none"> <li>- Fulminant hepatic failure and liver transplantation.</li> <li>- Living-donor liver transplantation.</li> <li>- Viral hepatitis and transplantation.</li> <li>- Cholestatic and autoimmune liver disease and transplantation.</li> <li>- Hepatocellular carcinoma and transplantation</li> <li>- Critical care of the liver transplant recipient.</li> <li>- Updates in Liver transplantation</li> </ul>		
A4. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Liver Transplant Medicine.		
A5. Mention the basic ethical and medicolegal principles relevant to the Hepatology Advanced.		
A6. Mention the basics of quality assurance to ensure good clinical care in Liver Transplant Medicine.		
A7. State the impact of common health problems in the field of Liver Transplant Medicine on the society and how good clinical practices improve these problems.		

### 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 Liver Transplant Medicine.	Clinical rounds Senior staff experience	Procedure/case presentation - Portfolio
B2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical		



situations related to Liver Transplant Medicine.		
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 Liver Transplant Medicine.		
B4-Formulate management plans and alternative decisions in different situations in the field of the Liver Transplant Medicine.		

### C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in caring and respectful behaviors in clinical diseases and common condition related to A1.	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations	OSCE Portfolio - MCQ exam
C2. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to the conditions mentioned in A1. -Hepatitis markers and markers for other viruses for donor and recipient. - Tumor markers for donor and recipient. - Iron study for donor and recipient. - Thrombophilia work-up for donor and recipient. -Chest X Ray, ECG, Echocardiography, pulmonary function test for donor and recipient. - Dobutamin stress echo for the recipient. -Imaging for donor (CT Abdomen, MRCP) -Abdominal Ultrasonography and Doppler for donor and recipient. - Carotid Doppler for recipient. -CT abdomen for donor and recipient. - Dynamic MRI with diffusion for recipients in HCC. -Upper and lower endoscopy. - Metastatic work up for HCC patient (Bone scan, PET Scan, Whole body MRI, CT chest, CT brain). - Breast US and Mammography for female more than 45	Clinical round with senior staff Observation Post graduate teaching Hand on workshops	-Procedure presentation Portfolio - Chick lists

<p>years.</p> <ul style="list-style-type: none"> <li>-Consultation for donor and recipient.</li> <li>- Liver biopsy for donor.</li> </ul>		
<p>C3. Interpret the following non invasive/invasive diagnostic procedures</p> <p>Routine appropriate Lab investigations related to the conditions mentioned in A1.</p> <ul style="list-style-type: none"> <li>-Hepatitis markers and markers for other viruses for donor and recipient.</li> <li>- Tumor markers for donor and recipient.</li> <li>- Iron study for donor and recipient.</li> <li>- Thrombophilia work-up for donor and recipient.</li> <li>-Chest X Ray, ECG, Echocardiography, pulmonary function test for donor and recipient.</li> <li>- Dobutamin stress echo for the recipient.</li> <li>-Imaging for donor (CT Abdomen, MRCP)</li> <li>-Abdominal Ultrasonography and Doppler for donor and recipient.</li> <li>- Carotid Doppler for recipient.</li> <li>-CT abdomen for donor and recipient.</li> <li>- Dynamic MRI with diffusion for recipients in HCC.</li> <li>-Upper and lower endoscopy.</li> <li>- Metastatic work up for HCC patient (Bone scan, PET Scan, Whole body MRI, CT chest, CT brain).</li> <li>- Breast US and Mammography for female more than 45 years.</li> <li>-Consultation for donor and recipient.</li> <li>- Liver biopsy for donor.</li> </ul>	<p>Clinical round with senior staff</p>	<p>Procedure presentation Portfolio - Chick list</p>
<p>C4. Perform the following non invasive/invasive diagnostic or therapeutic procedures.</p> <ul style="list-style-type: none"> <li>- Abdominal US.</li> <li>- Liver Biopsy for donor.</li> <li>- Alcohol injection.</li> </ul>	<p>Clinical round with senior staff</p> <ul style="list-style-type: none"> <li>-Perform under supervision of senior staff</li> </ul>	<p>Procedure presentation Portfolio - Chick list</p>
<p>C5. Prescribe the following non invasive/invasive therapeutic procedures:</p> <ul style="list-style-type: none"> <li>-Prescribe proper treatment for conditions in A1</li> <li>- Anticoagulants in vascular liver disease.</li> </ul>	<p>Clinical round with senior staff</p>	<p>-Procedure presentation - Portfolio - Chick list</p>
<p>C6. Carry out patient management plans for common</p>	<p>Clinical round</p>	

conditions related to Liver Transplant Medicine.	with senior staff	
C7. Use information technology to support patient care decisions and patient education in common clinical situations related to Liver Transplant Medicine		
C8. Provide health care services aimed at preventing health problems related to Liver Transplant Medicine like: -Delayed diagnosis of neoplastic liver diseases. - Hazards of anesthesia and risk of surgery in hepatic patient. -Hospital acquired infections. - Transmission of malignancies and infection through donor organs.		
C9-Provide patient-focused care in common conditions related to Liver Transplant Medicine while working with health care professionals, including those from other disciplines like: - Hepatobiliary pancreatic and liver transplant surgery. - Radiology. - Anaesthesia and Intensive care. - Chest Department. - Cardiology Department. -ENT Department. - Psychiatric Department. - Dental Department. - Haematology and Nephrology Departments in some cases.		
C10. 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 ( <b>audit, Portofolio</b> )	-Case log -Observation and	Procedure/case presentation - Portfolios

	supervision -Written & oral communication	
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/ 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 Chick list
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 to Liver Transplant Medicine.	Clinical round Seminars	Clinical Exam
D11. Write a report : - Patients pre -transplant medical report. -Patient consultation report. - Abdominal ultrasonography report.	Senior staff experience	Chick list
D12. Council patients and families about: - Prognosis of patient. - Preparation for liver transplantation. - Blood grouping. - The need for extensive lab work up and imaging	Clinical round with senior staff	

pretransplant. - The need for consultation with different departments for patient and donor safety. - Close follow up in the liver transplant clinic during preparation. -Treatment modalities for bridging and downstaging in HCC pre transplant. -Nutrition in liver transplant candidate.		
--	--	--

### 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	1. OSCE 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		1. OSCE 2. 360o 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.		1. 360o global rating 2. Patient survey

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

### Module Matrix

#### Time Schedule: Third semester

Topic	Covered ILOs			
	Knowledge A	Intellect ual B	Practical skill C	General Skills D
- Monitoring the patient awaiting liver transplantation.	A 1, A4-A7	B1-B4	C1-C10	D1-D18
- Management of portal hypertension.	A 1, A4- A7	B1-B4	C1-C10	D1-D18
- Management of renal disease in the liver transplant candidate.	A 1, A4- A7	B1-B4	C1-C10	D1-D18
- Management of hepatopulmonary syndrome and portopulmonary hypertension.	A 1, A4- A7	B1-B4	C1-C10	D1-D18
- Fulminant hepatic failure and liver transplantation.	A1,A3, A4- A7	B1-B4	C1-C10	D1-D18
- Viral hepatitis and transplantation ( HCV & HBV management pre transplantation)	A1,A3, A4- A7	B1-B4	C1-C10	D1-D18
- Cholestatic and autoimmune liver disease and transplantation.	A1,A3, A4- A7	B1-B4	C1-C10	D1-D18
- Hepatocellular carcinoma and transplantation.	A1,A3, A4- A7	B1-B4	C1-C10	D1-D18
- Cholangiocarcinoma and transplantation.	A 1, A4- A7	B1-B4	C1-C10	D1-D18
- Metabolic liver diseases and transplantation.	A 1, A4- A7	B1-B4	C1-C10	D1-D18
- Living-donor liver transplantation.	A1,A3, A4- A7	B1-B4	C1-C10	D1-D18
- Critical care of the liver transplant recipient.	A1,A3, A4- A7	B1-B4	C1-C10	D1-D18
- Transmission of malignancies and infection through donor organs.	A 1, - A7	B1-B4	C1-C10	D1-D18
- Indications, contraindications and pre-operative assessment and timing for transplantation.	A2, A4- A7	B1-B4	C1-C10	D1-D18

- Psychiatric and substance abuse evaluation of the potential liver transplant recipient.	A2, A4- A7	B1-B4	C1-C10	D1-D18
- Organ allocation in liver transplantation: ethics, organ supply, and evidence based practice.	A2, A4- A7	B1-B4	C1-C10	D1-D18
- Rare indications of liver transplantation.	A2, A4- A7	B1-B4	C1-C10	D1-D18
- Vaccination in liver transplant candidate.	A2, A4- A7	B1-B4	C1-C10	D1-D18
- Nutrition in liver transplant candidate.	A2, A4- A7	B1-B4	C1-C10	D1-D18
- Work Up for donor and Recipient	A2, A4- A7	B1-B4	C1-C10	D1-D18
- Updates in Liver transplantation	A3, A4- A7	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
5. Workshops and conference
6. Clinical rounds
7. Clinical rotation
8. Postgraduate teaching
9. Outpatient/ Inpatient
10. 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. Module assessment methods:**

#### **i. Assessment tools:**

- Written and clinical, oral examination
- Portfolio
- Objective structure clinical examination (OSCE)
- Objective structure practical examination (OSPE)
- Check list evaluation of live or recorded performance

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

#### **iii. Marks: 140 ( 80 written , 40 Oral, 20 practical)**

## 8. List of references

**i. Lectures notes**

**ii. Essential books**

Medical Care of the Liver Transplant Patient, 4th edition, 2012 and its updated version.

**iii. Recommended books**

Liver Transplantation - Technical Issues and Complications.

**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: April, 2019.	Date: April, 2019.



# **Fourth Semester Modules**

## **Advanced intervention and Applied Track**

- 1- Advanced Endoscopy.**
  - 2- Advanced Liver Intervention.**
  - 3- Post-transplant medical care.**
- 

# Advanced Endoscopy (IV-1)

**Name of department:** - Tropical Medicine and Gastroenterology Department in conjunction with *Gastroenterology Unit, Internal Medicine Department.*

**Faculty of medicine Assiut University 2019-2020**

## 1. Module data

- ✚ **Module Title:** Advanced Endoscopy
- ✚ **Module code:** HBM440H
- ✚ **Speciality:** Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ **Total CP= 10 / total marks: 200 / total hours 300**

Credit Points	Hours for student Workload/Semester						
	Lecture	Practical	Homework	Test Preparation	Other study (Workshop)	Private	Total Hours
10	15 (5 Lect)	180 days (30)	-	75	30		300
Percentage%	5%	60%	-	25%	10%		100%

- ✚ **Department (s) delivering the Unit:** Endoscopy in conjunction with Diploma coordinators.
- ✚ **Coordinator (s):**  
Staff members of Tropical Medicine and Gastroenterology Department with conjunction with gastroenterology unit of internal medicine departments 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

By the end of the training the candidates will:

1. Be able to competently perform therapeutic GIT endoscopy (Injection Therapy for fundal varices and Band Ligation for esophageal varices, Treatment for bleeding peptic ulcer, Diagnostic EUS and ERCP ).

### 3. Intended learning outcomes (ILOs):

#### A-Knowledge and understanding

ILOs	Methods of teaching/ Learning	<i>Methods of Evaluation</i>
A1 Demonstrate principals of : <ul style="list-style-type: none"> <li>• Sedation related to endoscopic procedure</li> <li>• Indications for therapeutic upper GIT Endoscopy</li> <li>• Endoscopic management of Upper GIT Disorders</li> <li>• Endoscopic management of Lower GIT Disorders</li> <li>• Endoscopic hemostasis</li> </ul>	-Lectures Image and Videos.	Portfolio Written
<b>A2. Describe Principles of</b> <ul style="list-style-type: none"> <li>- Endoscopic ultrasound</li> <li>- ERCP</li> </ul>	-Lectures	Portfolio Written
A3-Describe the basic ethical and medico-legal principles relevant to Gastrointestinal Endoscopy and consent.	-Lectures	Portfolio Written

#### B- Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
B1- Correlates the facts of Endoscopy necessary for management of problem related to hepato - pancreatico biliary and liver transplant Medicine.	Didactic (lectures, seminars, tutorial)	-Portfolio

#### C. Practical skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C1. Perform: <ul style="list-style-type: none"> <li>• Injection Therapy for fundal varices</li> <li>• Band ligation for Esophageal varices</li> <li>• Adrenaline injection for bleeding peptic ulcer.</li> </ul>	- Simulator - Work in endoscopy unit - Senior staff experience Hand on training	- -Portfolio Assesment of practical skills
C2.Perform ERCP and EUS	Senior staff experience - Work in endoscopy unit	
C3- Write competently endoscopy report	Senior staff experience	

## 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	Portfolio

### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D2 -Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	-Observation and supervision -Written and oral communication	Portfolio Check list
D3- Work effectively with others as a member of a health care team or other professional group		
D4- Counsel the patient before and after endoscopy		

### Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
D5. Demonstrate a commitment to ethical principles	Senior Staff Experience	Portfolio

### Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D6- 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: End of fourth semester**

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Therapeutic upper GIT Endoscopy	A1, A3	B1	C1,C3	D1-D6
Therapeutic Lower GIT Endoscopy	A1, A3	B1	C1,C3	D1-D6
- EUS	A2,A3	B1	C2	D1-D6
- ERCP	A2,A3	B1	C2	D1-D6

**5. Methods of teaching/learning:**

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Senior staff experience
4. Workshops
5. Videos

**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:**

Portfolio

**ii. Time schedule:** At the end of **fourth semester**

- **iii. Marks: 200 (80 Assignment, 80 practical, 40 Portfolio)**

**8. List of references**

- **Lectures notes**
- **Videos**

Essential books: Clinical Gastrointestinal Endoscopy 3rd Edition  
2018(<https://www.elsevier.com/books/clinical-gastrointestinal-endoscopy/chandrasekhara/978-0-323-41509-5>)

- Practical Gastrointestinal Endoscopy: The Fundamentals, 6th Edition, 2011.

- Atlas of GIT endpscopy (The 5th Edition of the Atlas for GI Endoscopy (Fascinating Images for Clinical Education; FICE) 2012

- ERCP and EUS: A Case-Based Approach:. Editors: **Lee, Linda S.** (Ed.)

**Periodicals, Web sites, ... etc:** Gastrointestinal Endoscopy

(<https://www.journals.elsevier.com/gastrointestinal-endoscopy>)

- **Others: None**

**9. Signatures**

**Module Coordinator**

**Module Coordinator:** .....

**Head of the Department:** .....

**Date:** .....

**Date:** .....

# Advance liver intervention module (IV-2)

**Name of department:** *Tropical Medicine and Gastroenterology Department and*

*Gastroenterology Unit, Internal Medicine Department.*

- Faculty of medicine
- Assiut University
- 2019/2020

## 1. Module data

- ✚ **Module Title:** Advanced Liver Intervention
- ✚ **Module code:** HBM428B
- ✚ **Speciality Professional Diploma in the Hepato-pancreatico-biliary Medicine.**
- ✚ **Number of ECTS : 10**

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study	Total Hours
10 CPs	15 (5 Lect)	180 (30 days)	-	75	30	300
Percentage %	5%	60%	-	25%	10%	100%

- ✚ **Department (s) delivering the module:** Radiology and Tropical Medicine and Gastroenterology Department in conjunction with *Gastroenterology Unit, Internal Medicine Department.*
- ✚ **Coordinator (s):**  
Staff members of Tropical Medicine and Gastroenterology Department in conjunction with Internal Medicine Department (*Gastroenterology Unit*) and Radiology Department.
- ✚ **Date last reviewed:** April 2019.
- ✚ **General requirements (prerequisites) if any:**  
None
- ✚ **Requirements for the students to achieve Module ILOs are clarified in the joining Portfolio.**

## 2. Module Aims

-The student should acquire the facts of Advanced Liver Intervention necessary for the Hepato-pancreatico-biliary Medicine.

### 3. intended learning outcomes (ILOs):

#### A- Knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
<p>A1. Describe the various interventional procedures related to the hepatic diseases:</p> <ul style="list-style-type: none"> <li>- Hepatic mass</li> <li>- HCC</li> <li>- Liver Abscess.</li> </ul>	<p>Didactic;</p> <ul style="list-style-type: none"> <li>-Lectures</li> <li>-Clinical rounds</li> <li>-Seminars</li> <li>-Clinical rotations</li> </ul>	<p>Oral and written exam</p> <ul style="list-style-type: none"> <li>-OSCE.</li> <li>Portfolio</li> </ul>
<p>A2. Mention the principles of :</p> <ul style="list-style-type: none"> <li>- PEI (percutaneous ethanol Injection).</li> <li>- Radiofrequency ablation (RFA).</li> <li>- Cryoablation</li> <li>- Liver biopsy</li> <li>- Trans arterial chemoembolization(TACE).</li> <li>- Trans arterial Radioembolization (TARE)</li> <li>- Microwave Ablation.</li> <li>- Liver Biopsy.</li> </ul>	<p>Didactic;</p> <ul style="list-style-type: none"> <li>-Lectures</li> <li>-Clinical rounds</li> <li>-Seminars</li> <li>-Clinical rotations</li> </ul>	<ul style="list-style-type: none"> <li>- MCQ examination</li> <li>-Oral and written exam</li> <li>-OSCE.</li> <li>Portfolio</li> </ul>
<p>A3 State update and evidence based Knowledge of</p> <ul style="list-style-type: none"> <li>- PEI (percutaneous ethanol Injection).</li> <li>- Radiofrequency ablation (RFA).</li> <li>- Cryoablation</li> <li>- Liver biopsy</li> <li>- Trans arterial chemoembolization(TACE).</li> <li>- Trans arterial Radioembolization (TARE)</li> <li>- Microwave Ablation.</li> <li>- Liver Biopsy.</li> </ul>		
<p>A4. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to Advanced Liver Intervention.</p>		
<p>A5. Mention the basic ethical and medicolegal principles relevant to the Advanced Liver Intervention.</p>		
<p>A6. Mention the basics of quality assurance to ensure good clinical care in his field.</p>		
<p>A7. State the impact of common health problems in the field of Advanced Liver Intervention on the society.</p>		

#### 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 Advanced Liver Intervention.	Clinical rounds Senior staff experience	Procedure/case presentation - Portfolio
B2. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Advanced Liver Intervention.		
B3. Design and present cases , seminars in common problem		
B4-Formulate management plans and alternative decisions in different situations in the field of the Advanced Liver Intervention.		

### C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in caring and respectful behaviors.	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations	OSCE Portfolio - MCQ exam
C2. Order the following non invasive/invasive diagnostic procedures - Routine Lab investigations related to common conditions in A1. - Abdominal US and Doppler. - MSCT Scan Abdomen. - Dynamic MRI with diffusion on the abdomen. -PET Scan. - Bone Scan.	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations	OSCE Portfolio - MCQ exam
C3. Interpret the following non invasive/invasive diagnostic procedures - Routine Lab investigations related to common conditions in A1. - Abdominal US and Doppler. - MSCT Scan Abdomen. - Dynamic MRI with diffusion on the abdomen. -PET Scan. - Bone Scan.	Clinical round with senior staff	Procedure presentation Portfolio - Chick list



<p>C4. Perform the following non invasive/invasive therapeutic procedures.</p> <ul style="list-style-type: none"> <li>- Abdominal US and Doppler US.</li> <li>- Alchol Injection.</li> <li>-Liver biopsy.</li> <li>- Aspiration of Liver Abscess.</li> <li>-Pig tail insertion Under Supervision.</li> <li>- Radiofrequency ablation(RFA) under supervision.</li> <li>-Microwave Ablation under supervision.</li> </ul>	<p>Clinical round with senior staff -Perform under supervision of senior staff</p>	<p>Procedure presentation Portfolio - Chick list</p>
<p>C5. Prescribe the following non invasive/invasive therapeutic procedures:</p> <ul style="list-style-type: none"> <li>- Management Post TACE.</li> <li>-Management of liver abscess.</li> </ul>	<p>Clinical round with senior staff</p>	<p>-Procedure presentation - Portfolio - Chick list</p>
<p>C6. Carry out patient management plans for common conditions related to Advanced Liver Intervention</p>	<p>Clinical round with senior staff</p>	
<p>C7. Use information technology to support patient care decisions and patient education in common clinical situations related to Advanced Liver Intervention.</p>		
<p>C8. Provide health care services aimed at preventing health problems related to Advanced Liver Intervention like:.</p> <ul style="list-style-type: none"> <li>Post biopsy or intervention bleeding</li> <li>Post TACE fever.</li> <li>Pancreatitis.</li> <li>Flare of Hepatitis B post TACE.</li> <li>Post procedure decompensation.</li> </ul>		
<p>C9. Provide patient-focused care in common conditions related to Advanced Liver Intervention, while working with health care professionals, including those from other disciplines like:</p> <ul style="list-style-type: none"> <li>- Hepatopancreatico and liver transplant Surgeon.</li> <li>- ICU.</li> </ul>		
<p>C10. 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)</p>		

**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 ( <b>audit,Portofolio</b> )	-Case log -Observation and supervision -Written & oral communication	Procedure/case presentation - Portfolios
D2.Appraises evidence from scientific studies(journal club)		
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 Seminars Lectures Case presentation Hand on workshops	Global rating Procedure/case presentation Portfolios Chick list
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 the seminar.	Clinical round Seminars	Clinical Exam
D11. Write report after Radiofrequency or alcohol injection.	Senior staff experience	Chick list
D12. Council patients and families about: - <b>Post intervention complications.</b> - <b>Post intervention follow up.</b>	Clinical round with senior 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	1. Objective structured clinical examination 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		1. Objective structured clinical examination 2. 360o 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.		1. 360o global rating 2. Patient survey

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

##### Time Schedule: Fourth Semester

Classes /Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skills	General Skills
- Multidisciplinary Team and Barcelona system for HCC staging and management.	A1,A4-A7	B1-B4	C1-C10	D1-D18
- Guidelines for HCC management.	A1, A4- A7	B1-B4	C1-C10	D1-D18
-Liver Abscess.	A2, A4- A7	B1-B4	C1-C10	D1-D18
- Alchol Injection.	A2,A3, A4- A7	B1-B4	C1-C10	D1-D18
Radiofrequency ablation(RFA).		B1-B4	C1-C10	D1-D18
- Trans arterial chemoembolization(TACE).	A2,A3, A4- A7	B1-B4	C1-C10	D1-D18
Trans arterial Radioembolization (TARE)	A2,A3, A4-A7	B1-B4	C1-C10	D1-D18
Microwave Ablation.	A2,A3, A4-A7	B1-B4	C1-C10	D1-D18
Liver Biopsy.	A2, A4-A7	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
5. Workshops and conference

#### 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:

- Oral and Clinical examination
- Portfolio

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

iii. Marks: 200 (80 Written, 80 practical, 40 Portfolio)

#### 8. List of references

##### i. Lectures notes

##### ii. Essential books

- 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

**iii. Recommended books:**

- Yamda's Textbook of Gastroenterology, 2 volume set, 6<sup>th</sup> Edition, 2015
- Sleisenger and Fordtran's Gastrointestinal and Liver Disease 2 volume - 10<sup>th</sup> Edition. 2015
- Liver imaging: MRI with CT correlation. Editors: Ersan Altun, Mohamed El-azzazi, Ritchard C Semelka. (Print ISBN: 9780470906255 online. 2015 John Wiley & Sons, Inc)

**iv- Periodicals, Web sites, ... etc:**

- American Journal of radiology
- EASL (European Association for Study of Liver Diseases).
- AASLD (American Association for Study Liver Diseases).

**v. Others: None.**

**9. Signatures**

<b>Module Coordinator</b>	
<b>Module Coordinator:</b>	<b>Head of the Departments:</b>
<b>Date: April, 2019.</b>	<b>Date: April, 2019.</b>



# Post-transplant medical care module (IV-3)

Name of department: **Tropical Medicine and Gastroenterology & Internal Medicine Gastroenterology Unit**

Faculty of medicine Assiut University 2019-2020

## 1. Module data

- ✚ Module Title: Post- transplant medical care
- ✚ Module code: HBM440I
- ✚ Speciality: Professional Diploma in the Hepato-pancreatico-biliary Medicine.
- ✚ Number of ECTS:10

Credit Points	Student Workload/Semester (15 weeks)					
	Lecture	Practical/ Clinical	Homework	Test Preparation	Other Private study (Conference or 2 active seminar+ 2 passive seminar )	Total Hours
10 CPs	30 (10 Lect)	150 (25 days	-	100	30	300
Percentage %	10%	50%	-	30 %	10%	100%

- ✚ Department (s) delivering the module: Internal medicine in conjunction with Tropical Medicine and Gastroenterology.
- ✚ Coordinator (s):
- ✚ Staff members of Internal medicine in conjunction with Tropical Medicine and Gastroenterology who are in liver transplantation team.
- ✚ Date last reviewed: April 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. The student should acquire the facts of post-transplant medical care necessary for the Hepato-pancreatico-biliary diseases and Liver Transplant Medicine.
2. To enable candidates to acquire a 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 post-transplant medical care.
3. To demonstrate the ability to provide patient-centered care that is appropriate, and effective for treatment of post-transplant medical problems.
4. To give opportunities to evaluate and manage a broad variety of problems post liver transplantation.

## 3. Intended learning outcomes (ILOs):

### A- Knowledge and understanding

ILOs	Methods of learning	<i>Methods of Evaluation</i>
<u>A1. Describe the details of:</u> 1-Medical Problems after Liver Transplantation 2-Recurrence of the Original Liver Disease 3- Infections in the Transplant Recipient 4- Renal Function Post-transplant 5- Cutaneous Diseases in the Transplant Recipient 6- Productivity and Social Rehabilitation of the Transplant Recipient 7-Immunosuppressive Medications 8-Drug Interactions with Commonly Used Immunosuppressive Agents 9 -Special Considerations for Liver Transplantation in Children	-Lectures  - Practical cases	-Written exam - Oral examination -Assessment of practical skills - Portfolio
<u>A2. Mention the principles of:</u> 1-HCV & HBV management post transplantation 2-Long term follow up after transplant. 3-Vaccination post liver transplantation 4- Small for size syndrome and its		

management 5- Post-transplant lymphoproliferative disorder and other malignancies after liver transplantation		
<u>A3. State update and evidence based Knowledge of:</u> 1-Complications (acute and chronic rejection and infections) post liver transplantation 2-Biliary complications and its management 3-Vascular complications and its management		
A4. Memorize the facts and principles of the relevant basic and clinically supportive sciences related to post-transplant medical care.		
A5. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to post-transplant medical care.		
A6. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of post-transplant medical care.		
A7. State the impact of common health problems in the field of post-transplant medical care on the society and how good clinical practices improve these problems.		

### 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 post-transplant Medical care.	Lectures Liver transplant clinic Clinical visits for transplanted cases	Procedure/case presentation - Portfolio
B2. Demonstrate an investigatory and analytic		



thinking (problem solving) approaches to common clinical situations related to post-transplant Medical care.		
B3. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to post-transplant Medical care.		
B4-Formulate management plans and alternative decisions in different situations in post liver transplant patients.		

### C- Practical skills (Patient Care)

ILOs	Methods of teaching/ learning	Methods of Evaluation
C1. Obtain proper history and examine patients in caring and respectful behaviors in clinical diseases and common condition related to A1, A2 and A3.	-Didactic; -Lectures -Clinical rounds -Seminars -Clinical rotations	OSCE Portfolio - MCQ exam
C2. Order the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to the conditions mentioned in A1, A2 and A3. - Immunsupressant drug level. -Abdominal Ultrasonography and Doppler for the recipient in the outpatient follow up visit. - Cholangiogram 3 month post liver transplant through biliary stent. - MRCP in suspected biliary stricture. - Liver biopsy for suspected chronic rejection. - Virological markers and PCR for Recurrent HBV, HCV or suspected CMV.	Clinical round with senior staff Observation Post graduate teaching	Portfolio - Chick lists
C3. Interpret the following non invasive/invasive diagnostic procedures -Routine appropriate Lab investigations related to the conditions mentioned in A1, A2 and A3 - Immunsupressant drug level.	Clinical round with senior staff	Portfolio - Chick list

<ul style="list-style-type: none"> <li>-Abdominal Ultrasonography and Doppler for the recipient in the outpatient follow up visit.</li> <li>- Cholangiogram 3 month post liver transplant through biliary stent.</li> <li>- MRCP in suspected biliary stricture.</li> <li>- Liver biopsy for suspected chronic rejection.</li> <li>- Virological markers and PCR for Recurrent HBV, HCV or suspected CMV.</li> </ul>		
<p>C4. Perform the following non invasive/invasive diagnostic or therapeutic procedures.</p> <ul style="list-style-type: none"> <li>- Abdominal US and Doppler.</li> <li>- Liver Biopsy for recipients in suspected chronic rejection</li> </ul>	<p>Clinical round with senior staff</p> <p>-Perform under supervision of senior staff</p>	<p>Portfolio</p> <p>- Chick list</p>
<p>C5. Prescribe the following non invasive/invasive therapeutic procedures:</p> <ul style="list-style-type: none"> <li>-Prescribe proper treatment for conditions in A1, A2 and A3.</li> <li>- Anticoagulants post liver transplant .</li> <li>- Treatment of HBV and HCV and CMV post liver transplantation.</li> <li>- Treatment of DM, Hypertention, Hyperlipdemia post liver transplantation.</li> <li>- Treatment of osteoprosis post liver transplant.</li> </ul>	<p>Clinical round with senior staff</p>	<p>-Procedure presentation</p> <p>- Portfolio</p> <p>- Chick list</p>
<p>C6- Carry out patient management plans for common conditions related to post- transplant Medical care.</p>	<p>Clinical round with senior staff</p>	
<p>C7-Use information technology to support patient care decisions and patient education in common clinical situations related to post- transplant Medical care.</p>		
<p>C8- Provide health care services aimed at preventing health problems related to post- transplant Medical care like:.</p> <ul style="list-style-type: none"> <li>-Delayed diagnosis of the recurrence of the original disease.</li> <li>-Hospital acquired infections.</li> <li>- Community acquired infection.</li> </ul>		

- Pneumocystis carinii pneumonia. - Obesity and osteoporosis post liver transplantation		
C9- Provide patient-focused care in common conditions related to post- transplant Medical care while working with health care professionals, including those from other disciplines like: - Hepatobiliary pancreatic and liver transplant surgery. - Radiology. - Anaesthesia and Intensive care.		
C10-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	of	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	and	Oral Exam Portfolio
D2. Appraises evidence from scientific studies(journal club)	-Journal clubs - Discussions in seminars and clinical rounds		
D3. Facilitate learning of junior students and other health care professionals.	Clinical rounds Senior staff experience		

#### Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	of	Methods of Evaluation
D4. Maintain therapeutic and ethically sound relationship with patients.	Clinical round Seminars Case presentation		Global rating Procedure/case presentation Portfolios Chick list

D5- Work effectively with others as a member of a health care team or other professional group.		
D6- Present a case in in common problems related to Liver Transplant Medicine.	Clinical round Seminars	Clinical Exam
D7-. Write a report in common condition mentioned in A1	-Observation and supervision -Written and oral communication	Oral Exam Portfolio Check list
D8. Council patients and families about: - Prognosis of patient post liver transplantation. - The need for strict follow up post liver transplantation with the liver transplant clinic. -Nutrition post liver transplantation. - Danger of obesity post liver transplantation. - The importance of immunsupressants. - Avoidance of any medications without consulting liver transplantation team.	Clinical rounds with senior staff	

### Professionalism

ILOs	Methods of learning	Methods of Evaluation
D9. Demonstrate a commitment to ethical principles	Senior Staff Experience	Oral Exam Portfolio
D10. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	Observation Senior staff experience Case taking	1. Objective structured clinical examination 2. Patient survey

### Systems-Based Practice

ILOs	Methods of learning	Methods of Evaluation
D11- Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	360o global rating
D12. Assist patients in dealing with system complexities.		1. 360o global rating 2. Patient survey

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

**Time Schedule: Fourth semester**

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skill C	General Skills D
Medical Problems after Liver Transplantation	A1, A4-A7	B1-B4	C1-C10	D1-D12
Recurrence of the Original Liver Disease	A1, A4- A7	B1-B4	C1-C10	D1-D12
Infections in the Transplant Recipient	A1, A4-A7	B1-B4	C1-C10	D1-D12
Renal Function Post-transplant	A1, A4-A7	B1-B4	C1-C10	D1-D12
Cutaneous Diseases in the Transplant Recipient	A1, A4-A7	B1-B4	C1-C10	D1-D12
Productivity and Social Rehabilitation of the Transplant Recipient	A1, A4-A7	B1-B4	C1-C10	D1-D12
Immunosuppressive Medications	A1, A4-A7	B1-B4	C1-C10	D1-D12
Drug Interactions with Commonly Used Immunosuppressive Agents	A1, A4-A7	B1-B4	C1-C10	D1-D12
Special Considerations for Liver Transplantation in Children	A1, A4-A7	B1-B4	C1-C10	D1-D12
HCV management post transplantation	A2, A4-A7	B1-B4	C1-C10	D1-D12
HBV management post transplantation	A2, A4-A7	B1-B4	C1-C10	D1-D12
Long term follow up after transplant	A2, A4-A7	B1-B4	C1-C10	D1-D12
Vaccination post liver transplantation	A2, A4-A7	B1-B4	C1-C10	D1-D12
-Complications (acute and chronic rejection and infections) post liver transplantation	A3, A4-A7	B1-B4	C1-C10	D1-D12
Biliary complications and its management	A3, A4-A7	B1-B4	C1-C10	D1-D12
Vascular complications and its management	A3, A4-A7	B1-B4	C1-C10	D1-D12
Small for size syndrome and its management	A2, A4-A7	B1-B4	C1-C10	D1-D12
Post-transplant	A2 A4-A7	B1-B4	C1-C10	D1-D12

lymphoproliferative disorder and other malignancies after liver transplantation				
---	--	--	--	--

**5. Methods of teaching/learning:**

1. Didactic (lectures, seminars, tutorial)
2. Observation and supervision
3. Written & oral communication
4. Senior staff experience
5. Outpatients liver transplant clinic
6. Inpatients.

**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
- OSCE/OSPE
- Portfolio

**ii. Time schedule:** At the end of the third trimester

**iii. Marks: 200 (100 written , 50 oral, 50 practical)**

**8. List of references**

**i. Lectures notes**

**ii. Essential books**

Medical Care of the Liver Transplant Patient, 4th edition, 2012 and its updated version.

**iii. Recommended books**

Liver transplant basic issues

**iv- Periodicals, Web sites, ... etc**

EASL (European Association for Study of Liver Diseases).

AASLD (American Association for Study Liver Diseases).

**9. Signatures**

<b>Module Coordinator</b>	
<b>Module Coordinator:</b> .....	<b>Head of the Department:</b> .....
<b>Date:</b> .....	<b>Date:</b> .....

## **ANNEX 2**

# **Program Academic Reference Standards (ARS)**

### **1- Graduate attributes for Professional Diploma degree *in* Hepato-Pancreatico-Biliary Medicine**

***The Graduate (after retraining 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 Hepato-Pancreatico-Biliary Medicine
- 2-** Appraise and utilise scientific knowledge to continuously update and improve clinical practice in related Hepato-Pancreatico-Biliary Medicine
- 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 Medicine
- 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 Hepato-Pancreatico-Biliary Medicine
- 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 Medicine
- 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 Medicine
- 10-** Show responsiveness to the larger context of the health care system, including e.g. the organization 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 Medicine 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 Medicine and the welfare of society.

**2-1-C-** Up to date and recent developments in common problems related to Hepato-Pancreatico-Biliary Medicine.

**2-1-D-** Ethical and medicolegal principles relevant to practice in Hepato-Pancreatico-Biliary Medicine.

**2-1-E** -Quality assurance principles related to the good medical practice in Hepato-Pancreatico-Biliary Medicine

**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 Medicine

**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 Medicine

**2.2- C-** Demonstrating systematic approach in studying clinical problems relevant to Hepato-Pancreatico-Biliary Medicine

**2-2-D-** Making alternative decisions in different situations in Hepato-Pancreatico-Biliary Medicine

### **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 Medicine

for patients with common diseases and problems.

**2-3- C-** Write and evaluate reports for situations related to the field of Hepato-Pancreatico-Biliary Medicine

## **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.

### ***+ 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.

### ***+ 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.

### ***+ 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

**Annex 3, Methods of teaching/learning**

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

**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

**Annex 4, ILOs evaluation 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	X	X	X		X	X	X
Checklist	X				X		
Global rating	X	X	X	X	X	X	X
Simulations	X	X	X	X	X	X	
Portfolios	X	X	X	X	X		
Standardized oral examination	X	X	X	X	X		X
Written examination	X	X	X	X			X
Procedure/ case log	X	X					
OSCE	X	X	X	X	X	X	X

**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



<b>By whom</b>	<b>Method</b>	<b>sample</b>
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
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 طب الكبد والبنكرياس والجهاز المراري

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

### 1- Graduate attributes

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 Medicine	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 Medicine	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 Medicine	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 Medicine	5- تحديد المشكلات المهنية و إيجاد حلول 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 Medicine	6- إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية

<p>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.</p> <p>8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.</p>	<p>7-التواصل بفاعلية و القدرة على قيادة فرق العمل</p>
<p>9- Acquire decision making capabilities in different situations related to Hepato-Pancreatico-Biliary Medicine</p>	<p>8-اتخاذ القرار في سياقات مهنية مختلفة</p>
<p>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.</p>	<p>9-توظيف الموارد المتاحة بما يحقق أعلى استفادة و الحفاظ عليها</p>
<p>11- Be aware of public health and health policy issues and share in system-based improvement of health care.</p>	<p>10-إظهار الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة في ضوء المتغيرات العالمية و الإقليمية</p>
<p>12- Show appropriate attitudes and professionalism.</p>	<p>11-التصرف بما يعكس الالتزام بالنزاهة و المصداقية و الالتزام بقواعد المهنة</p>
<p>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 Medicine or one of its subspecialties.</p>	<p>12-تنمية ذاته أكاديميا و مهنيا و قادرا علي التعلم المستمر</p>

## 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.	2-1-1-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 Medicine and the welfare of society.	2-1-1-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 Medicine	2-1-1-ج-التطورات العلمية في مجال التخصص.
2.1. D- Ethical and medicolegal principles relevant to practice in the Hepato-Pancreatico-Biliary Medicine	2-1-1-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 Medicine	2-1-1-هـ- مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1. F- Ethical and scientific basics of medical research.	2-1-1-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 Medicine 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 Medicine	2-2-1-أ- تحليل و تقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل
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 Medicine	2-2-1-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 Medicine	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 Medicine	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	2-2-هـ- 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 Medicine	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 health problems and the promotion of health.	2-3-أ- إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3.B- Demonstrate patient care skills relevant to Hepato-Pancreatico-Biliary Medicine for patients with common diseases and problems.	
2.3.C- Write and evaluate reports for Situation related to Hepato-Pancreatico-Biliary Medicine	2-3-ب- كتابة و تقييم التقارير المهنية
2.3.A- provide patient care that is compassionate, appropriate, and effective for the treatment of health	2-3-ج- تقييم الطرق و الأدوات القائمة في مجال التخصص

<p>problems and the promotion of health.</p> <p>2.3.B- Demonstrate patient care skills relevant to that Hepato-Pancreatico-Biliary Medicine for patients with common diseases and problems.</p>	
<p>2.4.D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.</p>	<p>2-4-أ-التواصل الفعال بأنواعه المختلفة</p>
<p>2.4.A-Demonstrate practice-based learning and improvement skills that investigation and involves evaluation of their own patient care, appraisal and assimilation of scientific evidence, improvements in patient care and risk management</p> <p>2.4.B- Use all information sources and technology to improve his practice.</p>	<p>2-4-ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية</p>
<p>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</p> <p>2.4.B- Use all information sources and technology to improve his practice.</p> <p>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.</p>	<p>2-4-ج- التقييم الذاتي وتحديد احتياجاته التعليمية الشخصية</p>
<p>2.4.A-Demonstrate practice-based learning and improvement skills that involves investigation and evaluation</p>	<p>2-4-د- استخدام المصادر المختلفة للحصول على المعلومات و المعارف</p>

of their own patient care, appraisal and assimilation of scientific evidence, , improvements in patient care and risk management.	
2.4. C- Demonstrate skills of teaching and evaluating others.	2-4-2-هـ- 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.	2-4-2-و- العمل في فريق ، وقيادة فرق في سياقات مهنية مختلفة
2.4.G- Demonstrate skills of effective time management.	2-4-2-ز- إدارة الوقت بكفاءة
2.4.H- Demonstrate skills of self and continuous learning.	2-4-2-ح- التعلم الذاتي و المستمر



**Comparison between ARS and ILOS for Professional Diploma degree in *Hepato-pancreatico biliary Medicine.***

<b>(ARS)</b>	<b>(ILOS)</b>
<p><b><u>2-1- Knowledge and understanding</u></b></p> <p><b>2-1-A-</b> Established basic, biomedical, clinical, epidemiological and behavioral sciences related conditions, problem and topics.</p>	<p><b><u>2-1- Knowledge and understanding</u></b></p> <p><b>2-1-A-</b> Explain the essential facts and principles of relevant basic sciences including, Anatomy, Physiology, Pathology, Microbiology and immunology and Pharmacology related to Hepato-Pancreatico-Biliary Medicine</p> <p><b>2-1-B-</b> Mention <u>essential facts</u> of clinically supportive sciences including Basics of Nutrition, and Clinical Pathology related to Hepato-Pancreatico-Biliary Medicine</p> <p><b>2-1-C-</b> Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Hepato-Pancreatico-Biliary Medicine</p>
<p><b>2-1-B</b> The relation between good clinical care of common health problem in Hepato-Pancreatico-Biliary Medicine and the welfare of society.</p>	<p><b>2-1-H-</b> State the impact of common health problems in the field of Hepato-Pancreatico-Biliary and Liver Transplant Medicine on the society and how good clinical practice improve these problems.</p>
<p><b>2-1-C-</b> Up to date and recent developments in common problems related to the field of Hepato-Pancreatico-Biliary Medicine</p>	<p><b>2-1-C-</b> Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of the common diseases and situations related to Hepato-Pancreatico-Biliary Medicine</p> <p><b>2-1-D-</b> Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Hepato-Pancreatico-Biliary Medicine</p>
<p><b>2-1-D-</b> Ethical and medicolegal Principles relevant to practice in the Hepato-Pancreatico-Biliary Medicine field.</p>	<p><b>2-1-E-</b> Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of Hepato-Pancreatico-Biliary Medicine</p>

<p><b>2-1-E-</b>Quality assurance principles related to the good medical practice in Hepato-Pancreatico-Biliary Medicine field.</p>	<p><b>2-1-F-</b> Mention the basics and standards of quality assurance to ensure good clinical practice in the field Hepato-Pancreatico-Biliary Medicine</p>
<p><b>2-1-F-</b> Ethical and scientific basics of medical research.</p>	<p><b>2-1-G-</b> Mention the ethical and scientific principles of medical research methodology.</p>
<p><b><u>2-2- Intellectual skills:</u></b></p> <p><b>2-2-A-</b>Correlation of different relevant sciences in the problem solving and management of common diseases of the Hepato-Pancreatico-Biliary Medicine</p>	<p><b><u>2-2- Intellectual skills:</u></b></p> <p><b>2-2-A-</b> Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Hepato-Pancreatico-Biliary Medicine</p>
<p><b>2-2-B-</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 Medicine</p>	<p><b>2-2-B-</b> Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Hepato-Pancreatico-Biliary Medicine</p>
<p><b>2-2-C-</b> Demonstrating systematic approach in studying clinical problems relevant to the Hepato-Pancreatico-Biliary Medicine field.</p>	<p><b>2-2-C-</b> 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 Medicine field.</p>
<p><b>2-2-D</b> Making alternative decisions in different situations in the field of the Hepato-Pancreatico-Biliary Medicine</p>	<p><b>2-2-D-</b> Formulate management plans and alternative decisions in different situations in the field of the Hepato-Pancreatico-Biliary Medicine</p>
<p><b><u>2-3- Clinical skills:</u></b></p> <p><b>2-3-A-</b> Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.</p> <p><b>2-3-B-</b> Demonstrate patient care skills relevant to that Hepato-Pancreatico-Biliary Medicine for patients with common</p>	<p><b><u>2/3/1/Practical skills (Patient Care :)</u></b></p> <p><b>2-3-1-A-</b> Obtain proper history and examine patients in caring and respectful behaviors.</p> <p><b>2-3-1-B-</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 Medicine</p> <p><b>2-3-1-C-</b> Carry out patient management plans for common conditions related to Hepato-</p>

<p>diseases and problems.</p>	<p>Pancreatico-Biliary Medicine</p> <p><b>2-3-1-D-</b> Use information technology to support patient care decisions and patient education in common clinical situations related to Hepato-Pancreatico-Biliary Medicine</p> <p><b>2-3-1-E-</b> Perform competently non invasive and invasive procedures considered essential for the Hepato-Pancreatico-Biliary Medicine</p> <p><b>2-3-1-F-</b> Provide health care services aimed at preventing health problems related to Hepato-Pancreatico-Biliary Medicine</p> <p><b>2-3-1-G-</b> Provide patient-focused care in common conditions related to Hepato-Pancreatico-Biliary Medicine while working with health care professionals, including those from other disciplines.</p>
<p><b>2-3-C-</b> Write and evaluate reports for situations related to the field of Hepato-Pancreatico-Biliary Medicine</p>	<p><b>-3-1-H</b> 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).</p>
<p><b><u>2-4- General skills</u></b></p> <p><b>2-4-A-</b> 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</p>	<p><b><u>2/3/2 General skills</u></b></p> <p><b>2-3-2-A-</b> Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).</p> <p><b>2-3-2-B-</b> Appraises evidence from scientific studies.</p> <p><b>2-3-2-C-</b> Conduct epidemiological studies and surveys.</p>
<p><b>2-4-B-</b> Use all information sources and technology to improve his practice.</p>	<p><b>2-3-2-C-</b> Conduct epidemiological studies and surveys.</p> <p><b>2-3-2-D.</b> 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.</p>

<p><b>2-4-C-</b> Demonstrate skills of teaching and evaluating others.</p>	<p><b>2-3-2-E-</b> Facilitate learning of students other health care professionals including their evaluation and assessment.</p>
<p><b>2-4-D-</b> Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.</p>	<p><b>2-3-2-F-</b> Maintain therapeutic and ethically sound relationship with patients.</p> <p><b>2-3-2-G-</b> Elicit information using effective nonverbal, explanatory, questioning, and writing skills.</p> <p><b>2-3-2-H-</b> Provide information using effective nonverbal, explanatory, questioning, and writing skills.</p> <p><b>2-3-2-I-</b> Work effectively with others as a member of a health care team or other professional group.</p>
<p><b>2-4-E-</b> Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.</p>	<p><b>2-3-2-J-</b> Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.</p> <p><b>2-3-2-K-</b> Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices.</p> <p><b>2-3-2-L-</b> Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.</p>
<p><b>2-4-F-</b> 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.</p>	<p><b>2-3-2-M-</b> Work effectively in relevant health care delivery settings and systems including good administrative and time management</p> <p><b>2-3-2-N-</b> Practice cost-effective health care and resource allocation that does not compromise quality of care.</p> <p><b>2-3-2-O-</b> Assist patients in dealing with system complexities.</p>

<p><b>2-4-G-</b> Demonstrate skills of effective time management</p>	<p><b>2-3-2-M-</b>Work effectively in relevant health care delivery settings and systems including good administrative and time management</p>
<p><b>2-4-H-</b> Demonstrate skills of self and continuous learning.</p>	<p><b>2-3-2-A-</b> Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).</p>

### 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
<b>Semester 1: Basic Sciences + Elective Module</b>								
1. Anatomy	✓							
2. Physiology	✓							
3. Microbiology/ immunology	✓							
4. Pharmacology	✓							
5. Pathology	✓							
6. Clinical Pathology and molecular biology		✓						
7. Basic Nutrition		✓						
8. Statistics and Research Methodology							✓	
9. Evidence Based Medicine				✓			✓	
10. Information Technology							✓	
<b>Semester 2: Clinical supportive sciences track</b>								
1. Basic Hepatology	✓	✓	✓	✓	✓	✓		✓
2. Imaging	✓	✓	✓	✓	✓	✓		✓
3. Intensive care patient Management	✓	✓	✓	✓		✓		
4. Basic Endoscopy			✓			✓		
<b>Semester 3: Speciality Track</b>								
1. Advanced Hepatology	✓	✓	✓	✓	✓	✓		✓
2. Pancreaticobiliary	✓	✓	✓	✓	✓	✓		✓
3. Liver transplant Medicine	✓	✓	✓	✓	✓	✓		✓
<b>Semester 4: Advanced intervention and Applied Track</b>								
1. Advanced Endoscopy			✓			✓		
2. Liver interventions	✓	✓	✓	✓	✓	✓		✓
3. Post transplant care	✓	✓	✓	✓	✓	✓		✓

## Intellectual

Module	Program covered ILOs			
	2/2/A	2/2/B	2/2/C	2/2/D
<b>Semester 1: Basic Sciences + Elective Module</b>				
1. Anatomy	✓			
2. Physiology	✓			
3. Microbiology/ immunology	✓			
4. Pharmacology	✓			
5. Pathology	✓			
6. Clinical Pathology and molecular biology	✓			
7- Basic Nutrition	✓			
8- Statistics and Research Methodology		✓		
9- Evidence Based Medicine		✓	✓	
10- Information Technology			✓	
<b>Semester 2: Clinical supportive sciences track</b>				
1. Basic Hepatology	✓	✓	✓	✓
2. Imaging	✓	✓	✓	✓
3. Intensive care patient Management	✓		✓	✓
4. Basic Endoscopy	✓			
<b>Semester 3: Speciality Track</b>				
1. Advanced Hepatology	✓	✓	✓	✓
2. Pancreaticobiliary	✓	✓	✓	✓
3. Liver transplant Medicine	✓	✓	✓	✓
<b>Semester 4: Advanced intervention and Applied Track</b>				
1. Advanced Endoscopy	✓			
2. Liver interventions	✓	✓	✓	✓
3. Post transplant care	✓	✓	✓	✓

**Practical Skills (Patient Care)**

Module	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
<b>Semester 1: Basic Sciences + Elective Module</b>								
1. Anatomy								
2. Physiology								
3. Microbiology/ immunology								
4. Pharmacology								
5. Pathology								
6. Clinical Pathology and molecular biology								
7. Basic Nutrition	✓	✓	✓		✓			✓
8. Statistics and Research Methodology								✓
9. Evidence Based Medicine		✓		✓				
10. Information Technology				✓				
<b>Semester 2: Clinical supportive sciences track</b>								
1. Basic Hepatology	✓	✓	✓	✓	✓	✓	✓	✓
2. Imaging	✓	✓	✓	✓	✓	✓	✓	✓
3. Intensive care patient Management	✓	✓	✓	✓	✓	✓	✓	✓
4. Basic Endoscopy					✓			✓
<b>Semester 3: Speciality Track</b>								
1. Advanced Hepatology	✓	✓	✓	✓	✓	✓	✓	✓
2. Pancreaticobiliary	✓	✓	✓	✓	✓	✓	✓	✓
3. Liver transplant Medicine	✓	✓	✓	✓	✓	✓	✓	✓
<b>Semester 4: Advanced intervention and Applied Track</b>								
1. Advanced Endoscopy					✓			✓
2. Liver interventions	✓	✓	✓	✓	✓	✓	✓	✓
3. Post transplant 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
<b>Semester 1: Basic Sciences + Elective Module</b>								
1. Anatomy				✓				✓
2. Physiology				✓				
3. Microbiology/ immunology				✓				✓
4. Pharmacology				✓				✓
5. Pathology				✓		✓	✓	
6. Clinical Pathology and molecular biology				✓				✓
7. Basic Nutrition		✓				✓		✓
8. Statistics and Research Methodology	✓		✓					
9. Evidence Based Medicine	✓	✓						
10. Information Technology				✓				
<b>Semester 2 Clinical supportive sciences track</b>								
1. Basic Hepatology				✓	✓	✓	✓	✓
2. Imaging				✓	✓	✓		✓
3. Intensive care patient Management				✓			✓	✓
4. Basic Endoscopy				✓			✓	✓
<b>Semester 3: Speciality Track</b>								
1. Advanced Hepatology	✓	✓	✓	✓	✓	✓	✓	✓
2. Pancreaticobiliary	✓	✓	✓	✓		✓	✓	✓
3. Liver transplant Medicine	✓	✓	✓	✓	✓	✓	✓	✓
<b>Semester 4: Advanced intervention and Applied Track</b>								
1. Advanced Endoscopy				✓			✓	✓
2. Liver interventions	✓	✓	✓	✓	✓	✓	✓	✓
3. Post transplant care		✓		✓	✓	✓	✓	✓

**General Skills (cont.)**

Module	Program covered ILOs						
	2/3/2/I	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/M	2/3/2/N	2/3/2/O
<b>Semester 1: Basic Sciences + Elective Module</b>							
1. Anatomy			✓		✓		
2. Physiology	✓		✓		✓		
3. Microbiology/ immunology			✓		✓		
4. Pharmacology			✓		✓		
5. Pathology	✓		✓		✓		
6. Clinical Pathology and molecular biology			✓		✓		
7. Basic Nutrition	✓	✓	✓	✓	✓		
8. Statistics and Research Methodology			✓				✓
9. Evidence Based Medicine							
10. Information Technology	✓	✓				✓	
<b>Semester 2 Clinical supportive sciences track</b>							
1. Basic Hepatology	✓	✓	✓	✓	✓		
2. Imaging	✓		✓	✓	✓		✓
3. Intensive care patient Management	✓				✓	✓	
4. Basic Endoscopy			✓	✓	✓		
<b>Semester 3: Speciality Track</b>							
4. Advanced Hepatology	✓	✓	✓	✓	✓	✓	✓
5. Pancreaticobiliary	✓	✓	✓	✓	✓	✓	✓
6. Liver transplant Medicine	✓	✓	✓	✓	✓	✓	✓
<b>Semester 4: Advanced intervention and Applied Track</b>							
1. Advanced Endoscopy			✓	✓	✓		
2. Liver interventions	✓	✓	✓	✓	✓	✓	✓
3. Post transplant care	✓	✓	✓	✓	✓	✓	

**(End of the program specifications)**