

Course specification of Medical Physiology for Hepatology medicine master

A- Administrative Information

Course Title: Physiology

Code: HEPT711

Department giving the course: Medical Physiology department

Program on which the course is given: Master in Hepatology medicine

Department offering the Program: Hepatology Medicine department

Academic level: 1st part

Date of specification/revision: 2011

Date of approval by Departmental and Institute Council:2011

B- Professional information:

4. Overall aims of the course:

- 4.1. Recall all basic physiological information regarding the learned subjects.
- 4.2. Explain, on a physiological bases, the related clinical pictures seen in the field of hepatology medicine.
- 4.3. Apply course information to the explain the physiological background for treatment of the related abnormal, dysfunction, or dysregulated physiological mechanisms accompanying diseases of Hepatology medicine.

5. Intended learning outcomes (I.L.Os):

a- Knowledge & Understanding:

By the end of the course, students should be able to:

- A1. Name the different fluid compartments in the human body, and define moles, equivalents, and osmoles.
- A2. Define the components of blood, their origins, and their role in homeostasis.
- A3. Describe how the tonicity (osmolality) of the extracellular fluid is maintained by alterations in water intake and vasopressin secretion.
- A4. Describe how the volume of the extracellular fluid is maintained by alterations in renin and aldosterone secretion.
- A5. Name the major electrolytes in body fluids, and state their functions.
- A6. Explain how a negative feedback mechanism works, and how a positive feedback mechanism differs.
- A7. List the mechanisms by which heat is produced in and lost from the body.
- A8. List the temperature-regulating mechanisms, and describe the way in which they

are integrated under hypothalamic control to maintain normal body temperature.

A9. Define the term homeostasis, and use examples to explain its mechanism.

A10. Understand the functional significance of the gastrointestinal system, and in particular, its roles in nutrient assimilation, excretion, and immunity.

b- Intellectual Skills:

B1. Delineate the process of hemostasis that restricts blood loss when vessels are damaged, and the adverse consequences of intravascular thrombosis.

B2. Discuss the pathophysiology of fever.

B3. Differentiate between pain and nociception.

B4. Differentiate between fast and slow pain and acute and chronic pain.

B5. Define circulatory shock, and list the compensatory processes that may arise during shock.

B6. Suggest the primary disturbances that can account for cardiogenic, hypovolemic, anaphylactic, septic, and neurogenic shock states.

B7. Differentiate the physiologically significant effects of pancreatic hormones and other factors that regulate carbohydrate metabolism in health and diabetes.

c- Professional and Practical Skills:

C1. Implement course information to explain the basis of disease states where components of the blood and vasculature are abnormal, dysregulated, or both.

C2. Diagnose and explain referred pain.

C3. Differentiate alkalosis and acidosis, and outline respiratory and renal compensatory mechanisms in response to each of them.

C4. Delineate the mechanisms of digestion and uptake for ingested food substances including vitamins and minerals.

C5. Infer how different gastrointestinal motility types change during several GIT diseases.

C6. Attribute the mechanisms by which the liver contributes to whole body homeostasis and the consequences of the failure of these mechanisms.

C7. Contrast the physiologic and pathologic effects of adrenal hormones.

d- General and Transferable Skills:

- D1. Use course information effectively in the field of hepatology medicine practice.
- D2. Retrieve, manage, and manipulate course information by all means, including electronic means.
- D3. Present course information clearly in written, electronic and oral forms.
- D4. Communicate ideas and arguments effectively.
- D5. Analyze and use numerical data including the use of simple statistical methods.

6. COURSE CONTENT:

Topic	Theoretical hours	Laboratory/ Practical	Total
Body Fluids and Blood	2		2
Water and Electrolyte Balance	2		2
Homeostasis	2		2
Body Temperature	2		2
Pain Sensation	2		2
Hemorrhage and Shock	2		2
The functional significance of the gastrointestinal system, and in particular, its roles in	2		2

nutrient assimilation, excretion, and immunity			
The physiologically significant effects of pancreatic hormones and other factors that regulate carbohydrate metabolism in health and diabetes.	2		2
Alkalosis and acidosis, and outline respiratory and renal compensatory mechanisms in response to each of them	1.5		1.5
The mechanisms of digestion and uptake for ingested food substances including vitamins and minerals. Different gastrointestinal motility types change during several GIT diseases	1,5		1.5
The mechanisms by which the liver contributes to whole body homeostasis and the consequences of the failure of these mechanisms	1		1
The physiologic and pathologic effects of adrenal hormones	1		1
Total hours	11	9	20

7. TEACHING & LEARNING METHODS:

4.1. Lectures

4.2. practical classes

8. STUDENT ASSESSMENT METHODS:

5.1- Written Examination for assessment of knowledge and understanding and intellectual skills

5.2- Oral Examination for assessment of knowledge and understanding outcomes, intellectual skills, general skills and attitude.

5.3 practical examinations to assess intellectual and Practical skills

ASSESSMENT SCHEDULE:

One written exam 3 hour in Physiology(150marks) + oral (50marks).

WEIGHING OF ASSESSMENT:

Written exam 75 %

Oral exam 25%

Total 100%

9. 6- List of references

6.1. Text Books:

Ganong's Review of Medical Physiology, 23rd Edition, 2010.

6.2. Course Notes:

Not available.

6.3. Suggested Readings:

Textbook of medical physiology, Arthur C. Guyton, John E. Hall, 11th Edition, 2006.

10. 7- Resources / Facilities required for teaching and learning to achieve the above

ILOs:

7.1- Data show.

7.2- Computers

7.3- Internet club.

7.4- Laboratory instruments.

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