

## Liverpool John Moores University

Title: HUMAN PHYSIOLOGY  
Status: Definitive  
Code: **4011BMBMOL** (113096)  
Version Start Date: 01-08-2011

Owning School/Faculty: Pharmacy & Biomolecular Sciences  
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
Elaine Hemers	Y
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**Academic Level:** FHEQ4      **Credit Value:** 12.00      **Total Delivered Hours:** 37.00  
**Total Learning Hours:** 120      **Private Study:** 83

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	21.000
Practical	12.000
Seminar	3.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination: Multiple choice and short answers	50.0	1.00
Report	AS2	Coursework: Practical report	25.0	
Presentation	AS3	Coursework: Problem-based learning seminar	25.0	

### Aims

*To provide an introduction to the organisation and integration of physiological processes in humans.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Discuss the functional properties of the circulatory system and how it influences other major physiological systems.
- 2 Describe the detailed functioning of the human cardiovascular, respiratory, osmoregulatory, and gastrointestinal systems.
- 3 Identify the key aspects of haematology
- 4 Explain the concept of homeostasis with particular reference to thermoregulation.
- 5 Present, analyse and interpret physiological data.
- 6 Work in a group to prepare a verbal presentation on a physiological subject.
- 7 Identify the major organ systems and their function.

## Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

EXAM	1	2	3	4
CW	2	5	7	
CW	6			

## Outline Syllabus

*Review of the heart and blood vessels in the systemic and pulmonary systems. Composition and function of blood. Electrical and mechanical events in the cardiac cycle. Control of heart rate and cardiac output. Regulation of blood pressure and blood volume.*

*Control of ventilation. Factors affecting alveolar exchange of respiratory gases. Haemoglobin and oxygen transport. Carriage and elimination of carbon dioxide.*

*Exocrine function of the digestive tract and accessory glands. Absorption of nutrients and elimination of waste. Neuro-hormonal control of digestion.*

*Nephron structure in relation to the physiological processes of filtration, reabsorption and secretion. Control of electrolyte, pH and fluid balance. Humoral control of osmoregulation.*

*Evaporation and non-evaporative heat loss, dermal insulation. Homeostasis and thermal regulation.*

*Normal human peripheral blood cells; morphology, function, origin and development. Bone marrow structure.*

## Learning Activities

Lectures, practicals, problem-based learning workshops.

## References

<b>Course Material</b>	Book
<b>Author</b>	Silverthorn, D.U.
<b>Publishing Year</b>	2007
<b>Title</b>	Human Physiology: An Integrated Approach
<b>Subtitle</b>	
<b>Edition</b>	4th Edition
<b>Publisher</b>	Pearson, Benjamin Cummings
<b>ISBN</b>	9780321396242

<b>Course Material</b>	Book
<b>Author</b>	Martini, F.H. & Nath, J.L.
<b>Publishing Year</b>	2009
<b>Title</b>	Fundamentals of Anatomy and Physiology
<b>Subtitle</b>	
<b>Edition</b>	8th Edition
<b>Publisher</b>	Pearson, Benjamin Cummings
<b>ISBN</b>	9780321539106

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## Notes

Physiology of the human cardiovascular, respiratory, renal and gastrointestinal systems. Thermoregulation and homeostasis. Blood cell types.