

MODULE DESCRIPTOR

TITLE	Physiology and Biochemistry of Health and Disease
MODULE CODE	44-5888-00L
LEVEL	5
CREDITS	20
FACULTY	Sheffield Business School
DEPARTMENT	Service Sector Management
SUBJECT GROUP	Food Group
MODULE LEADER	Tony Lynn
DATE OF APPROVAL	2 nd December 2015

MODULE AIM

This module aims to foster an appreciation of how lifestyle influences disease. Registered nutritionists (AfN) require an understanding of the normal physiology and biochemistry of body systems and how this is altered during the development of disease. The module aims to further develop knowledge of a range of body systems and introduce students to the physiological and biochemical perturbations that occur during the pathogenesis of common diseases.

MODULE LEARNING OUTCOMES

LO	Learning Outcome
1	Describe the structure and function of a range of body systems.
2	Summarise key physiological and biochemical changes that occur during the pathogenesis of common diseases.
3	Explain how lifestyle, including diet, contributes to the development of a number of common diseases.
4	Evaluate a range of biochemical and physiological markers of health and disease.
5	Develop learning, communication, and practical skills and formulate ideas and opinions about the physiology and biochemistry of health and disease, including those relevant to graduate employment.

INDICATIVE CONTENT

- The physiology and biochemistry of a range of body systems including: the cardiovascular system, haematological system, peripheral and central nervous systems, immune system, respiratory system, and muscular-skeletal system.
- Atherosclerosis, insulin resistance, bone demineralisation, carcinogenesis and other pathogenic processes.
- Application of a range of biochemical/physiological markers of health and disease e.g. lipid profiling, glucose tolerance testing, pulse wave analysis and anthropometry.
- The collection, statistical analysis and reporting of data.

LEARNING, TEACHING AND ASSESSMENT STRATEGY AND METHODS

Students will be supported in their learning, to achieve the above outcomes, in the following ways:

Strategy

The learning and teaching strategy is designed to promote a student centred approach to the acquisition of specialist knowledge through keynote lectures and seminars. A selection of laboratory-based sessions will be used to develop specialist subject knowledge.

Methods

Formal lectures and seminar sessions

The principles and concepts of physiology will be delivered through a mix of lectures and seminars and supported by open learning (detailed below).

Supported open learning

Students are expected to participate in supported open learning throughout the module. Supported open learning includes the student reading key texts and additional paper-based materials

Practical laboratory activities

Laboratory practical sessions will be used to enable a clearer understanding of the fundamental concepts introduced in the module. Through these, students will gain an appreciation of some common methods used to assess health status. Students will be required to interpret and explain data in a structured format.

Resources

The module will make use of a range of materials. Typically students will have access to:

- A module booklet containing, an outline of the module, details of the programme of study, directed reading and assessment criteria;
- Relevant ICT applications;
- Appropriate academic literature;
- A module 'Blackboard' site;
- Subject specific screencasts;
- A fully equipped human physiology laboratory.

ASSESSMENT DESCRIPTION

Task 1 consists of a laboratory report based on the outcome of two practical sessions. Data for the report will be collected in semester 1.

Task 2 consists of a 2 hour examination covering the entire content of the module; section A consists of multiple choice questions and section B consists of long questions. Students will be required to answer 3 long questions from a choice of 5.

ASSESSMENT PATTERN - TASK INFORMATION (STANDARD ASSESSMENT MODEL)

Task No.*	Description of Assessment Task	Task Weighting %	Word Count or Exam Duration**	Sub-tasks Y/N ⁺	IMR [^] Y/N	Final Task Y/N
1	Laboratory Report	50%	2000	N	N	N
2	Examination	50%	2 hours	N	N	Y

ANY ADDITIONAL REQUIREMENTS FOR THIS MODULE

None

FEEDBACK TO STUDENTS

Students will receive feedback on their performance in the following ways:

Feedback for assessed coursework will be provided to students within the standard timeframe agreed by the Faculty/ University. Staff will identify an overall percentage, and provide a highlighted marking grid identifying things that the student did well, as well as areas where they might improve. This will be supplemented with further oral feedback during subsequent timetabled sessions.

Exam marks will be available via My Student Record. If required, oral feedback will be available on exam performance.

LEARNING RESOURCES FOR THIS MODULE (INCLUDING READING LISTS)

The online resource list for this module is available at <https://shu.rl.talis.com/lists/1FAC3D08-C18E-A70D-E7FA-7A32013540EE.html>. This list is available on the module Blackboard site (Support resources section) or through the Library Gateway link to reading lists <https://shu.rl.talis.com/> (search by name of the module or module code).

Recommended Texts

- Waugh, A. & Grant, A. (2010). Ross and Wilson Anatomy and Physiology in Health and Illness. 11th ed., Edinburgh, Churchill Livingstone Elsevier.

Supplementary and Alternative Texts

- Calder P.C. (2002). Nutrition and Immune Function. New York, CABI in conjunction with The Nutrition Society.
- Herlihy, B. (2011). The Human Body in Health and Illness. 4th ed., Canada, Saunders Elsevier.
- Huenther S et al. (2008). Understanding pathophysiology 4th ed., Louis, USA, Mosley Education.
- King R.J.B. and Robbins M.V. (2006). Cancer Biology 3rd ed., Pearson Education.
- Lanham-New, S.A., M. J. MacDonald, I. A. & Roche, H. M. (Eds. on behalf of the Nutrition

- Society) (2011). Nutrition and Metabolism. 2nd ed., Oxford, Blackwell Science.
- Open University. (2007). Understanding cardiovascular diseases. Milton Keynes, Open University.
 - Tortora, G. J. & Derrickson, B. (2012). Introduction to the Human Body: the essentials of anatomy and physiology. 9th ed., Chichester, Wiley.
 - Tortora, G. J. & Derrickson, B. (2011). Principles of Anatomy and Physiology. Volume 1 and 2; 13th ed., Chichester, Wiley.
 - Weinberg, R.A. (2013). The biology of cancer. 2nd ed., New York, Garland Science.

Internet sources – the resources included below provide you with an indication of the wealth of information available online relating to service, operations and quality management. As you discover additional useful resources, please email the teaching team and we will continue to develop a valuable resource together.

American Heart Association www.americanheart.org/

British Heart Foundation www.bhf.org.uk/

International Osteoporosis Foundation www.iofbonehealth.org/

National Cancer Institute www.cancer.gov

World Health Organisation www.who.org

RESEARCH MODULES ONLY:

DOES MODULE REQUIRE APPROVAL OF FACULTY RESEARCH ETHICS COMMITTEE? NO

MODULE STUDY HOURS (KEY INFORMATION SET)

Module Study Hours - Breakdown of Hours by Type		
Scheduled Learning and Teaching Activity type*	Hours by type	KIS category
Lecture	24	Scheduled L&T
Seminar	12	Scheduled L&T
Practical classes and workshops	18	Scheduled L&T
Scheduled Learning and Teaching Activities sub-total	54	
Guided Independent Study	146	Independent
Total Number of Study Hours (based on 10 hours per credit)	200	

CHECKED

Date	Reason
Feb 16	Checked against SI - correct

REVISIONS

Date	Reason