



Disease and Immunity

SBS-2-511

Blackboard site

2011/2012

Level 5

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1.0 UNIT DETAILS

Unit Title:	Disease and Immunity
Unit Level:	2
Unit Reference Number:	SBS - 2 - 511
Credit Value:	1 Credit = 15 CATS units
Student Study Hours:	150 hours
Contact Hours:	51hours
Private Study Hours:	99 hours
Pre-requisite Learning (If applicable):	Microbiology
Co-requisite Units (If applicable):	None
Course(s):	Food and Bioscience Programme
Year and Semester	2004/05 Semester 2
Unit Coordinator:	Dr Neil Morgan
UC Contact Details (Tel, Email, Room)	020-7209-7956 Email Morgannl@lsbu.ac.uk Room E242
Teaching Team & Contact Details (If applicable):	Dr M. Byford 020-7209-7598 Email Byfordmf@lsbu.ac.uk Room B 150 Dr John Accord 020- 7815 -7922 Room B 140 Email acordj@lsbu.ac.uk
Subject Area:	Bioscience and Food
Summary of Assessment Method:	100% Examination

"This guide is designed to help you structure your learning by providing an indicative structure and content for the unit. It is a guide and not a definitive statement of what you will be taught. We will try to follow this published schedule as far as possible, but there may be some variation as the unit develops and as we try to match the pace and content of our teaching to student needs."

2.0 SHORT DESCRIPTION

The unit looks at various types of disease: Infectious, congenital (genetic and acquired), degenerative, metabolic (endocrine and nutritional), immunological (auto immune, allergic, inflammatory), nepotistic. The basics of the immune system and diagnosis and therapy.

3.0 AIMS OF THE MODULE

1. To give the students an appreciation of the role of disease in history and the perceptions of what is health and ill health.
2. To transmit a body of factual knowledge on basic immunology.

3. Survey the various types of disease and methods used to study them including epidemiology, diagnosis and therapy.

4.0 LEARNING OUTCOMES

4.1 KNOWLEDGE AND UNDERSTANDING

At the end of this unit, a student will be able to:

1. Appreciate the many types of disease and the methods of diagnosis, and therapy.
2. Understand the basic structure and function of the immune system.

4.2 INTELLECTUAL SKILLS

Students who engage fully with the unit will further develop skills acquired earlier in the programme of study. In particular, there will be opportunities to develop:

learning how to learn; there are numerous aspects to this skill which will be developed e.g. time management, finding information, analysing information critically.

Use of information and communication technology: the use of Web Of Science (WOS) data base and the Internet and CD-ROMs will be expected. As well as the unit's Blackboard site.

ability in critical analysis; this key intellectual skill is a major learning outcome of this unit and a main indicator of attainment of graduate status. In the unit the practical classes will develop this skill.

understanding methodologies; this will developed as a result of practical classes

Numeracy skills: will be practised during the practical sessions.

4.3 PRACTICAL SKILLS

The practical programme will involve microscopy, calibration, analysis of data of prepared human blood slides. Basic immunological techniques will be learnt.

4.4 TRANSFERABLE SKILLS

Communication skills; oral communication will be required during scheduled classes and practical sessions.

Ability to work in a team; The development will be an important skill will occur during the practical sessions.

5.0 INTRODUCTION TO STUDYING THE MODULE

5.1 OVERVIEW OF THE MAIN CONTENT

Content

Health and Disease

Theories of health and ill health in different cultures and times.

Types of Disease

Infectious, congenital (genetic and acquired), degenerative, metabolic (endocrine and nutritional), immunological (auto immune, allergic, inflammatory), nepotistic.

Immunology

The non-specific immune system and inflammation.

Specific immunity: B cells and antibodies, T cells.

Clinical aspects: vaccination, immunodeficiency, hypersensitivity and autoimmunity.

Using antibodies: immunoassays and monoclonal antibodies.

Recovery from disease

Immunological and chemotherapy.

5.2 OVERVIEW OF TYPES OF CLASSES

Teaching and Learning Pattern:

The unit comprises of 12 weeks of formal lectures, (2 per week). Each student will take part in tutorials. In addition, there will be 4 practical sessions, each of 3 hour duration including a visit to the Fleming Museum.

5.3 IMPORTANCE OF STUDENT SELF-MANAGED LEARNING TIME

In preparation for each lecture/tutorial/practical class you should read your notes from level 1 Microbiology.

6.0 THE PROGRAMME OF TEACHING, LEARNING AND ASSESSMENT

Lectures and tutorials (Tuesday 10-1 LR 401) Practical Wednesday J302

	Lecture 10-11	Tutorial 11-12	Practical 2-5	Lecture 12-1
Week No.				
19	NLM	NLM		NLM
20	NLM	NLM 1	NLM 1	MB
21	NLM	NLM 2	NLM 2	NLM
22	NLM	NLM 3	NLM 3	MB
23	NLM	NLM 4	NLM 4	NLM
24	NLM	NLM 5		MB
25	NLM	NLM 6		MB
26	NLM	NLM		NLM
27	MB	NLM		MB
28				
29	EASTER			
30				
31	NLM	NLM		MB
32	NLM	NLM		MB
33	NLM	NLM		MB
34	NLM/MB			

Practical Friday 2-5

20 - 23	J302	NLM/MB
1	Cells and organs of the immune system.	
2	Immunoassays - Qualitative and quantitative	
3	Pathogenic microbes.	
4	Visit to a museum - Fleming Museum.	

LECTURES AND TUTORIALS

A and B lectures

J = Janeway

Week 19

- A Introduction to the unit, assessment, practicals ,
Types of disease
- B Infectious disease
- J c 1

Week 20

- A Cells and organs of the immune system - link to practical 1

B Toxins
Friday 2-5 J302
Cells and organs of the immune system practical 1
J c 1

Practical J304

Week 21

A Basic immunology
B Antibodies link to practical 3
Friday 2-5 J302 - practical 3
J c 1,2
Tutorial 1
Practical 2-5 J304 Practical 1

Week 22

A Innate immunity
B Bacterial diseases
Tutorial 2
J c 1,2
Friday 2-5 J302 Practical 2

Week 23

A B cells
B T cells
Tutorial 3
J c 3
Visit Fleming Museum

Week 24

A Immunological methods
B Virus diseases
Tutorial 4
J c Appendix 1

Week 25 Applied immunology

A Infectious diseases
B Allergy - Type 1
Tutorial 5

Week 26

A Allergy Type 2, Blood grouping, Transfusions
B Allergy Type 3,4

J c 14
Tutorial 6

Week 27
Chemotherapy
B Chemotherapy

Week 28 - 30 **Easter**

Week 31
A Vaccination
B Chemotherapy
J c 16

Week 32
A Autimmunity
B Chemotherapy
J c 15
Tutorial 5

Week 33
A Transplantation
B Chemotherapy
Tutorial 6
J c 15

Week 34 Revision all staff

Tutorial Programme

Tutorials 1-6
Weeks 20 - 26
See tutorial booklet

Tutorial topics

- 1 Your disease and vaccination history
- 2 Disease and the immune system
- 3 Tuberculosis
- 4 Hepatitis
- 5 Nosocomial infections
- 6 HIV infection and AIDS: controversies

7.0 ASSESMENT OF THE UNIT

Assessment Method:

The unit will be assessed by a 2 hour examination (3 out of 6 questions)

Section A of the examination paper will cover the practical classes (1 out of 2 questions)

Section B 2 out of 4 questions.

A student must achieve a minimum overall unit mark of 40% to pass the unit

In addition students are required to attend the laboratory sessions and keep a record of the experimental work in order to pass this unit.

Old examination papers are available on line – go to

LSBU home page

Library – LISA

Subject portals – Science

Bioscience

Examination papers

8.0 LEARNING RESOURCES

8.1 CORE MATERIALS

CORE READING:

Core Text

Janeway's Immunobiology 8th Edition Kenneth Murphy
ISBN 978-0-8153-4243-4 (alk. Paper) 2012

General texts

Prescott LM, Harley JP & Klein DA. *Microbiology, 4th edition.* WCB

This book should also be familiar from your first semester courses. It includes a good summary of cell structure. It also has a large section on immunology, parts of which are referenced as basic reading for some of the immunology lectures.

Campbell NA. Reece J.B. *Biology, 6th edition.* Benjamin/Cummins

The main text for this unit. The suggested reading from this book indicated in the lecture programme will help ensure that you understand the main points. You should already have purchased a copy in the first semester.

Good text

Journals are available on line – go to

LSBU home page

Library – LISA

Subject portals – Science

Bioscience
E resources
E journal finder
A-Z choose journal title

Other useful texts

If you want to investigate an area in more depth, or wish to read an alternative account of a topic you find confusing, consult one of the books described below. All are available in the library (with copies in the key text collection and others available for one-week loan). Don't forget that you can reserve copies if all are out on loan.

Benjamini E. and Leskowitz S. *Immunology - A Short Course* Alan R. Liss New York (1988)

Stolley P Laskey T *Investigating Disease Patterns: the science of Epidemiology* WH Freeman/Scientific American Library (1995)

Staines NA, et al. *Introducing Immunology, 2nd edition.* Gower (1993)

Roitt IM. *Essential Immunology, 8th edition.* Blackwell Scientific (1994)

Jones A, Reed R & Weyers J. *Practical Skills in Biology.* Longman Scientific & Technical (1994)

NOTES

Blackboard site for this unit

No pass word required