

This Version is No Longer Current
 The latest version of this module is available [here](#)

MODULE DESCRIPTOR

Module Title

Fundamental Blood Sciences

Reference	AS3501	Version	1
Created	September 2017	SCQF Level	SCQF 9
Approved	February 2018	SCQF Points	15
Amended		ECTS Points	7.5

Aims of Module

To provide students with the ability to apply the principles of clinical biochemistry, haematology and the essential features of transfusion science to the diagnosis, treatment and monitoring of disease.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Discuss the methods used for investigations of haemopoiesis and haemostasis, incorporating appropriate management systems.
- 2 Discuss how pregnancy can be confirmed and how maternal and foetal health can be monitored.
- 3 Discuss preparation, storage and appropriate use of blood components, demonstrating knowledge of genetics, inheritance, structure and role of red cell antigens.
- 4 Discuss the factors which can lead to the development of cardiovascular gastrointestinal, renal, endocrine and liver disorders and explain how these can be diagnosed and treated.
- 5 Discuss the range and applications of near-patient tests and non-invasive techniques.

Indicative Module Content

Haematology: Haemopoiesis and haemostasis, basic morphology. Transfusion Science: Main blood group systems, effective blood bank practice and component preparation. Clinical Biochemistry: Clinical Endocrinology; diagnosis of selected endocrine disorders, thyroid function tests. Clinical chemistry of the kidney and related disorders; role of kidney in homeostasis of nitrogen, renal function tests, creatinine, gout and aminoaciduria's. Cardiovascular disease; platelet functions, thromboses and atherosclerosis. Near-patient testing and selected non-invasive techniques. Liver disease; liver function tests, jaundice. Gastroenterology; gastric and duodenal function tests, malabsorption syndromes. Clinical chemistry of pregnancy and lactation; pregnancy tests, prenatal diagnosis of birth defects, hormonal monitoring of foetal and maternal health, postnatal screening tests. Analytical Techniques: Sample selection and quality assurance, near-patient testing and selected non-invasive techniques, manual and automated methods of investigations; cell identification and counting, haemoglobinometry, haematinic and haemoglobin variants, coagulation tests, serological techniques and compatibility testing.

Module Delivery

This is a lecture and case study oriented course supplemented with directed reading, seminars from visiting speakers and tutorial sessions.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Examination	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4
Description:	A closed book examination consisting of two sections: Section A will be one of three pre-seen case studies; Section B will consist of essay questions.				

Component 2

Type:	Coursework	Weighting:	0%	Outcomes Assessed:	5
Description:	The coursework will consist of an essay in which the student will show understanding of near-patient testing and non-invasive techniques giving selected examples. It will be marked as either a pass or fail.				

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

This module is assessed using the 2 components of assessment as detailed in the Assessment Plan. To pass this module, candidates must achieve a grade D or better.

Module Grade	Minimum Requirements to achieve Module Grade:
A	Final mark of 70% or greater for C1 and a PASS in C2.
B	Final mark of between 60-69% for C1 and a PASS in C2.
C	Final mark of between 50-59% for C1 and a PASS in C2.
D	Final mark of between 40-49% for C1 and a PASS in C2.
E	MARGINAL FAIL. Final mark of between 35-39% for C1 and a PASS in C2.
F	FAIL. A mark of less than 35% in C1 and/or a FAIL in C2.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	Successful completion of Stage 2 of the course, or equivalent.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 AHMED, N. *Clinical Biochemistry*. Current Edition. Oxford University Press.
- 2 BURTIS, C.A. AND ASHWOOD, E.R. *Tietz: Fundamentals of Clinical Chemistry*. Current Edition. Saunders.
- 3 LUXTON, R. *Clinical Biochemistry*. Current Edition. Scion Publishing Ltd.
- 4 PRICE, C.P., St JOHN, A. AND HICKS, J.M. *Point of Care Testing*. Current Edition. American Association of Clinical Chemistry.
- 5 MOORE, G., KNIGHT, G. and BLANN, A. *Haematology*. Current Edition. Oxford University Press.
- 6 KNIGHT, R. *Transfusion and Transplantation Science. Current Edition. Oxford University Press*.
- 7 OVERFIELD, J., DAWSON, M. AND HAMER, D. *Transfusion Science*. Current Edition. Scion Publishing Ltd.
- 8 HALL, A., SCOTT, C. AND BUCKLAN, M. *Clinical Immunology*. Current Edition. Oxford University Press.