COURSE OUTLINE

MLS110 Haematology

School: School of Health - Biomedicine

2026 | Semester 2

UniSC Sunshine Coast	BLENDED LEARNING	Most of your course is on campus but you may be able to do some components of this course online.

Please go to unisc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

This course provides an introduction to haematology, an area of general pathology that is concerned with diseases that affect the blood, such as blood clotting disorders, anaemias, lymphomas, leukaemias and haemoglobinopathies. Blood transfusion and bone marrow transplantation will also be discussed during the course. Competencies in haematological techniques conducted in pathology laboratories including full blood count, microscopy and the review of blood films, white cell differential counts, staining methods for microscopy, blood grouping and coagulation tests will be assessed.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Weekly interactive learning guides	1hr	Week 1	13 times
Tutorial/Workshop 1 – Weekly on campus tutorial	1hr	Week 1	12 times
Laboratory 1 – Weekly on campus laboratory	2hrs	Week 1	12 times

1.3. Course Topics

- Introduction to Haematology
- Blood Cell Development
- Erythrocytes and Erythrocyte Disorders
- Leucocytes and Leucocyte Disorders
- Counting Blood Cells
- Anaemias
- Platelets and Blood Coagulation Pathways
- Coagulation Tests
- Introduction to Blood Transfusion

2. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Identify the different components, production and functions of blood.	Knowledgeable Creative and critical thinker
2	Understand the theory and interpret the results of routine haematology laboratory tests.	Knowledgeable Creative and critical thinker
3	Identify and describe the features, classification and diagnostic tests for the major haematological malignancies and disorders outlined.	Knowledgeable Creative and critical thinker
4	Show competency in routine practical techniques in haematology	Knowledgeable Engaged

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Enrolled in Program SC385, SC211, SC357 or SC355

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

5.5. Microcredential Information

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Formative and summative quizzes will be available throughout the course to provide feedback on your academic progress. You will be introduced to patient case studies and can attempt calculations, haematology terminology and morphology identification through the in-class activities that will also provide you with feedback and help prepare you for the assessment tasks in the course.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Quiz/zes	Individual	30%	20 mins per quiz	Throughout teaching period (refer to Format)	Online Submission
All	2	Case Study	Group	20%	1000 words +/- 10%	Week 9	Online Submission
All	3	Practical / Laboratory Skills	Individual	50%	4-hours	Refer to Format	In Class

All - Assessment Task 1: Review Quizzes

GOAL:	Using haematology knowledge and critical thinking, satisfactorily identify the different components, production and functions of blood and how they are analysed in the laboratory
PRODUCT:	Quiz/zes
AUTHORSHIP STATEMENT:	
FORMAT:	There will be 6 quizzes with multiple choice/short answer questions (5% each). A practice quiz will be available in Week 2. Quizzes will be completed via Canvas in odd numbered weeks commencing Week 3. You will only have 20 minutes to complete the quiz once commenced. If you have not attempted the quiz by the closing date and time, a zero mark will be recorded. Late submission penalties do not apply. We cannot retrieve unsubmitted quizzes and it is the student's responsibility to submit quiz responses by the due date and time.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Recall information from the MLS110 Haematology teaching materials — 1 2 3 2 Solve problems based on theoretical material and information covered in the learning materials, laboratories and tutorials — 1 2 3 4
GENERIC SKILLS:	Problem solving, Organisation, Applying technologies, Information literacy

All - Assessment Task 2: Case Studies

GOAL:	Complete case studies describing the features, interpretation and diagnostic tests for erythrocyte disorders (anaemia).
PRODUCT:	Case Study
AUTHORSHIP STATEMENT:	
FORMAT:	Students will work in pairs to complete two haematology case studies related to an erythrocyte disorder (anaemia). While working as a team each student will contribute to both case studies. Students will submit their case studies online through a blended learning approach for each case study in week 9. Assessment will be based on overall group performance of the completed case studies, rather than on an individual basis. Further directions about the assessment requirements will be available in the tutorials leading up to and during the assessment task, and information will be provided to students by the course coordinator on the MLS110 Haematology Canvas site.
CRITERIA:	

No.		Learning Outcome assessed
1	Calculate and interpret parameters of automated results	2
2	Provide comments on the peripheral blood films	1 4
3	Complete differential white cell counts	4
4	Provide summaries of the patients including a differential diagnosis	2 3
5	Explain with reason the patient presentation, the significance of the results and tests and any further recommendations for the patient.	2 3

GENERIC SKILLS:	Communication, Collaboration, Problem solving, Organisation, Information literacy

All - Assessment Task 3: Practical Haematology Exam

GOAL:	To develop satisfactory laboratory skills and competencies in Haematology that would meet the requirements of the QLD pathology industry for the training of medical science technicians. Students must complete the training for this assessment in the preceding labs before attending the exam - this includes a minimum of 80% attendance of the laboratory practical. This is a health and safety requirement.
PRODUCT:	Practical / Laboratory Skills
AUTHORSHIP STATEMENT:	
FORMAT:	The practical exam will be 4-hours total in duration (over 2 x 2hr sessions) and will take place during the regular practical class time in weeks 7 and 12. The practical exam will consist of a series of practical tests designed to assess your competency in haematology techniques. You will bring in records of the preceding lab training sessions to gain entrance into this exam. Your tutor will sign your lab book for each lab and check that associated lab work has been completed. This is your evidence that you have been appropriately trained and can demonstrate appropriate health and safety measures to undertake this exam at industry standard.
CRITERIA:	

No.		Learning Outcome assessed
1	Knowledge and practice of the safety requirements in the haematology laboratory	4
2	Interpreting the results from basic haematological techniques covered during the practical classes	2
3	Performance of a differential count on a blood film	4
4	Knowledge of specific staining procedures in haematology	2 4
5	Identification of blood film morphology using light microscopy and still images	1 3 4

GENERIC SKILLS:	Problem solving, Organisation, Applying technologies

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

7.1. Schedule

PERIOD AND TOPIC	ACTIVITIES
1 Introduction to Haematology	Blood cell types: structure and function Safety in the Haematology laboratory pecimen collection Care and use of the microscope
2 Blood Cell Development and Examination	Haematopoiesis Preparing and examining a blood film Bone marrow preparation and examination
3 Erythrocytes	Normal red blood cell production & destruction Membrane physiology and structure Haemoglobin and iron metabolism Routine tests for RBC
4 Leucocytes	Leucocyte development, structure, function Differential count Other tests for white blood cells Normal bone marrow morphology
5 Blood Cell Counting	Automated full blood analysers Discrepancies in instrument counts Correlation of the peripheral blood film and full blood count
6 Introduction to erythrocyte disorders	General principles Classification Diagnostic tests
7 Anaemia	Common anaemia disorders Approach to diagnosis
8 Platelets & Blood Coagulation Pathways	Platelet production, structure & function Normal haemostasis & coagulation Vascular, platelet and coagulation phases
9 Coagulation Tests	Routine tests for haemostasis Disorders of haemostasis Fibrinolysis Fibrin split and degradation products Thrombosis and Antithrombotic Therapy
10 Blood Transfusion and Banking	Blood grouping & basic immunology concepts Haemolytic disease of the newborn
11 Introduction to Leucocyte Disorders	General principles Non-malignant leucocyte disorders Diagnostic tests
12 Malignant Leucocyte Disorders	General principles Leukaemias and lymphomas Diagnostic tests
13 Advanced Haematology Concepts	Introduction to molecular diagnostics Cytogenetics, cytochemistry, flowcytometry

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

You need regular access to the resource(s) below. Many texts are available as ebooks through the Library at no additional cost.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Recommended	A. Victor Hoffbrand,David P. Steensma	2019	Hoffbrand's Essential Haematology	8th	John Wiley & Sons

8.2. Specific requirements

MLS110 is structured to provide you with knowledge and practical skills necessary to meet industry established proficiency standards. It is therefore an expectation of both the University and our industry partners that you will participate in all of the directed study activities (learning materials, laboratories, tutorials) and demonstrate satisfactory proficiency in the practical assessment in order to evidence your preparedness for the placement. To gain such proficiency you must attend and participate in at least 80% of the laboratory practicals throughout the semester before you are permitted to complete Assessment Task 3 (practical exam) and you must attain a minimum 50% result for Task 3. You are required to complete the WHS laboratory induction and successfully complete the quiz before the first practical session, wear appropriate personal protective equipment (PPE) during the practical component, including covered, non-slip shoes, laboratory coat/gown and safety glasses, long hair should be tied back.

9. How are risks managed in this course?

Risk assessments have been performed for all laboratory classes and a moderate level of health and safety risk exists. Moderate risks are those associated with laboratory work such as working with chemicals and hazardous substances. You will be required to undertake laboratory induction training and it is also your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying: The final mark is in the percentage range 47% to 49.4% The course is graded using the Standard Grading scale You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate (the rates are cumulative): - 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task. - 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task. - A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

10.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

In person:

- **UniSC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **UniSC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **UniSC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **UniSC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **UniSC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **UniSC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au