

MLS210 Advanced Haematology

School: School of Health - Biomedicine

2023 | Semester 1

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 usc.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

Haematology is the area of general pathology that is concerned with diseases that affect the blood, such as blood clotting disorders, anaemia, haemophilia, lymphoma, leukaemia and haemoglobinopathies. This course builds on the fundamentals of haematology developed in the first-year course, MLS110 Haematology. After completing this course, you should be able to recognise critical limits and conditions associated with the major haematological tests conducted in pathology services.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Fully independent asynchronous learning	2hrs	Week 1	13 times
Tutorial/Workshop 1 – On campus discussion and review of haematology theory and concepts to case studies	2hrs	Week 1	7 times
Laboratory 1 – On campus laboratories to gain competency in haematology laboratory investigation including but not limited to blood film morphology and coagulation assays.	4hrs	Week 2	6 times

1.3. Course Topics

Erythrocyte Disorders
 Leukocyte Disorders
 Coagulation Disorders & Laboratory Assessment
 Platelets and vasculature disorders
 Malaria
 Paediatric, Obstetrics and Geriatric Haematology
 Molecular Diagnostics
 Flow Cytometric Analysis
 Cytogenetics & Cytochemistry
 Bone Marrow and Stem Cell Transplantations

2. What level is this course?

200 Level (Developing)

Building on and expanding the scope of introductory knowledge and skills, developing breadth or depth and applying knowledge and skills in a new context. May require pre-requisites where discipline specific introductory knowledge or skills is necessary. Normally, undertaken in the second or third full-time year of an undergraduate programs.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES		GRADUATE QUALITIES
On successful completion of this course, you should be able to...		Completing these tasks successfully will contribute to you becoming...
1	Identify and describe the features, classification and diagnostic tests for major haematological malignancies and disorders	Knowledgeable Creative and critical thinker Empowered Engaged
2	Show competency in basic haematological techniques, including preparing blood films, examining and understanding diagnostic tests for haematological malignant/disorders, blood films and assessing laboratory parameters for paediatric, geriatric and obstetric haematology	Knowledgeable Creative and critical thinker Empowered 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

MLS110 and enrolled in Program SC211, SC355 or SC357

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

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

You will be reviewing patient case studies, haematology terminology and morphology identification through in-class activities that will provide you with feedback and help you prepare 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	Case Study	Group	15%	Up to 20 minute presentation.	Refer to Format	In Class
All	2	Practical / Laboratory Skills	Individual	45%	Part 2A 1 hr + 10min perusal, Part 2B 2 hr + 10min perusal.	Refer to Format	In Class
All	3	Examination - Centrally Scheduled	Individual	40%	The final exam will be in 2 parts: Part A Multiple choice questions 50min Part B Short answer questions & case studies 70min.	Exam Period	Online Submission

All - Assessment Task 1: Case study (15%)

GOAL:	Scientific research and communication are key competencies developed in this oral case study activity. You will work collaboratively in a group to prepare and present a case study of a haematological malignancy or disorder.		
PRODUCT:	Case Study		
FORMAT:	Submit: Week 7 or 9. You will work in a group. All members of the group will have to work together to provide a description of the patient history, full blood count and morphology of the images from the patient slide(s); a description of the diagnostic tests they would request and why; an overview of the treatment and prognosis of the patient. The presentation must be supported by a PowerPoint file. You will participate in a question and answer forum with the MLS210 class and tutors. The references used for the presentation will follow the Harvard style. The group will also conduct a peer assessment of another group's presentation. Note: Formative feedback for this assessment will be provided in tutorials in weeks 3 and 5. This is a group assignment, individual submissions will receive a zero mark.		
CRITERIA:	No.		Learning Outcome assessed
	1	Provide an accurate description of the characteristics of the haematological malignancy or disorder, and the pathophysiology and aetiology of the condition	1 2
	2	Outline the appropriate haematological tests that are used to identify the haematological malignancy or disorder, and why the tests were requested	1 2
	3	Provide a coherent and logical oral presentation including references in the Harvard style	1 2
	4	Prepare a well-designed PowerPoint slide, case study and presentation and keep good time management	2
	5	Every individual student must participate in a question and answer forum	2
	6	Participate as part of the group to peer assess the oral presentation of another group	2
GENERIC SKILLS:	Communication, Collaboration, Problem solving, Organisation, Information literacy		

All - Assessment Task 2: Practical haematology exams 45%

GOAL:	To develop advanced laboratory skills and competencies in Haematology that would meet the requirements of the QLD pathology industry for training medical science technicians. Students must attend and participate in at least 80% of the laboratory practicals throughout the semester before you are permitted to attempt Assessment Task 2b (end of semester practical exam) and you must attain a minimum of 50% result for Task 2.		
PRODUCT:	Practical / Laboratory Skills		
FORMAT:	The first practical exam in week 6 will be 1 hour in duration (15%) and will examine erythrocyte disorders and leukaemia. The second practical exam in week 12 will be 2 hours in duration (30%) and will examine the material from weeks 1 to 11. The practical exam will consist of a series of practical tests designed to assess your competency in haematological techniques, and your ability to interpret results and make recommendations based on your findings.		
CRITERIA:	No.		Learning Outcome assessed
	1	Haematological techniques and interpretation of results.	1 2
	2	Examination and understanding of diagnostic tests for haematological malignant blood films.	1 2
	3	Ability to assess laboratory parameters for paediatric, geriatric and obstetric haematology	1 2
GENERIC SKILLS:	Problem solving, Applying technologies, Information literacy		

All - Assessment Task 3: Examination - Centrally Scheduled

GOAL:	For the student to - demonstrate your knowledge and understanding of theoretical, diagnostic, practical and clinical concepts of haematology covered in week 1 to 13. - synthesise the elements of the course, analyse information and explain elements of the theories which underpin the concepts in advanced haematology covered during the course. - solve problems based on theoretical material and information covered in lectures and tutorials for paediatric, geriatric and obstetric haematology.		
PRODUCT:	Examination - Centrally Scheduled		
FORMAT:	The final exam will be centrally scheduled and be in 2 parts: Part A Multiple choice questions Part B Short answer questions & case studies		
CRITERIA:	No.		Learning Outcome assessed
	1	Assessment will be based on theoretical, diagnostic, practical and clinical concepts of haematology covered in week 1 to 13	2
GENERIC SKILLS:	Problem solving, Applying technologies, Information literacy		

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.

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

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

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

MLS210 is structured to provide you with knowledge and practical skills necessary to meet industry established proficiency standards. This course will assist you to demonstrate your ability to meet inherent academic requirements for the program including those related to communication, observation, interpretation and recording of information. It is therefore an expectation of both the University and our industry partners that you will participate in all the directed study activities (learning materials, laboratories, tutorials) and demonstrate satisfactory proficiency in the practical assessment.

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 2b (end of semester practical exam). You are required to provide and wear appropriate protective equipment during the laboratory practical, including: covered, non-slip shoes, laboratory coat/gown and safety glasses. Disposable gloves and other protective equipment will be provided when required.

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

The course is graded using the Standard Grading scale

Your eligibility for supplementary assessment in a course is dependent of all the following conditions applying:

- The student has attained a minimum of 50% result for Task 2.
- The student's final mark is in the percentage range 47% to 49.4%
- The student has not failed an assessment task in the course due to academic misconduct.

10.3. Assessment: Submission penalties

Task 1 is a group assignment, a result of zero is awarded for assessment task 1 if it is submitted by an individual student rather than as group.

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. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](tel:0754301226) or email studentwellbeing@usc.edu.au.

10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email AccessAbility@usc.edu.au or call 07 5430 2890.

10.8. 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>

10.9. 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.

10.10. 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