COURSE OUTLINE

MLS201 Advanced Haematology

School: School of Health - Biomedicine

2026 | Trimester 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 advanced course builds on the fundamentals of haematology developed in the first-year course. 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	1.5hrs	Week 1	12 times
Tutorial/Workshop 1 – On campus discussion and review of haematology theory and concepts to haematology case studies.	2hrs	Week 2	5 times
Laboratory 1 – On campus laboratories to gain competency in haematology laboratory investigation including but not limited to blood film morphology and coagulation assays.	3hrs	Week 1	12 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 On successful completion of this course, you should be able to...	GRADUATE QUALITIES MAPPING Completing these tasks successfully will contribute to you becoming...	PROFESSIONAL STANDARD MAPPING * Australian Institute of Medical and Clinical Scientists
1 Demonstrate competency in haematological techniques including preparing blood films, performing full blood counts, microscopic examination and reporting of blood films, and performing coagulation assays.	Knowledgeable Creative and critical thinker Empowered Engaged Communication Collaboration Problem solving Organisation Applying technologies Information literacy	1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.2.1, 1.2.3, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.6.1, 1.6.2, 1.6.3, 1.6.4, 1.6.7, 1.5, 2.1.1, 2.1.2, 2.2.1, 2.3.1, 2.3.2, 3.2.1, 3.3.1, 3.3.2, 5.2.1, 5.3.3, 5.3.4, 5.3.9, 7.1.2, 10.4.1, 10.4.2, 10.4.3
2 Synthesize haematology results, knowledge of the pathophysiology and clinical features of haematological disorders to support the diagnosis and monitoring of haematological diseases.	Knowledgeable Creative and critical thinker Empowered Engaged Communication Collaboration Problem solving Organisation Applying technologies Information literacy	2.1, 2.3, 3.2.1, 3.2.7, 3.3.1, 3.3.2, 3.3.3, 6.5.4
3 Appraise current concepts in haematopoiesis, stem cell biology and advanced diagnostic techniques in haematology, including flow cytometry, cytogenetics and molecular diagnostics.	Knowledgeable Empowered Engaged Problem solving Applying technologies Information literacy	6.2.4, 6.4.1, 6.5.3, 6.5.7, 7.3.2, 7.4.1, 9.1.1, 10.1.5, 10.3.2, 10.4.2, 10.4.3

* Competencies by Professional Body

CODE	COMPETENCY
AUSTRALIAN INSTITUTE OF MEDICAL AND CLINICAL SCIENTISTS	
1.1.1	Ensure the appropriateness of sample collection procedures: Correct request form is received as set out in established protocol.
1.1.2	Ensure the appropriateness of sample collection procedures: Identification of patient and demographic information is established.
1.1.3	Ensure the appropriateness of sample collection procedures: Appropriate action is taken when request appears inconsistent with patient information data.
1.1.4	Ensure the appropriateness of sample collection procedures: Patient preparation and specimen collection is consistent with test(s) requested.
1.2.1	Ensure the appropriateness of specimen reception procedures: Documentation is checked to ensure it matches specimen and complies with current regulations.

CODE	COMPETENCY
1.2.3	Ensure the appropriateness of specimen reception procedures: Specimen suitability for further processing is established.
1.3.1	Evaluate specimen suitability prior to analysis: Correct and satisfactory labelling and matching of subject details is established.
1.3.2	Evaluate specimen suitability prior to analysis: Confirmation is made that the nature of the specimen is consistent with requested analysis.
1.3.3	Evaluate specimen suitability prior to analysis: Specimen is received in correct container (i.e., containing correct anticoagulant or fixative if appropriate) and in accordance with collection and delivery protocols.
1.3.4	Evaluate specimen suitability prior to analysis: Quality of specimen meets defined acceptability criteria.
1.3.5	Evaluate specimen suitability prior to analysis: Appropriate action, as per defined criteria, is taken upon receipt of an unsuitable specimen.
1.6.1	Read and validate results - Equipment based testing: Laboratory instrumentation is operated within established procedures (including quality control, troubleshooting instrument problems and performing preventative and corrective maintenance).
1.6.2	Read and validate results - Equipment based testing: Validity of test results is confirmed in terms of protocols (including standards, quality control data and performance of analytical systems) and problems are identified and remedied or notified to the appropriate staff member.
1.6.3	Read and validate results - Equipment based testing: Results are calculated from data outputs according to documented procedures.
1.6.4	Read and validate results - Equipment based testing: Test data, calculations, results and acceptance/rejection of analytical procedure outcome are documented.
1.6.7	Read and validate results - Observation based testing: Critical observations are made and recorded.
1.5	Collection, preparation and analysis of clinical material: Process specimen utilising appropriate techniques
2.1.1	Assess validity of data/results against possible range of outcomes: Initial observation and limited interpretation for significance of the raw data/results is undertaken.
2.1.2	Assess validity of data/results against possible range of outcomes: Implausible results, results inconsistent with clinical information or expected outcomes based on other test results or those outside defined criteria are investigated further using defined troubleshooting strategies.
2.2.1	Validation of results: Possible causes for implausible or inconsistent results or outcomes are determined.
2.3.1	Make decisions about reporting results, repeating procedures, consulting senior staff and carrying out further tests within established guidelines: Appropriate decisions about repeating procedures, carrying out further tests within established guidelines, rejection or reporting of results are made. Senior staff are appropriately consulted.
2.3.2	Make decisions about reporting results, repeating procedures, consulting senior staff and carrying out further tests within established guidelines: Rejected results are dealt with appropriately.
2.1	Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information: Assess validity of data/results against possible range of outcomes
2.3	Correlation and validation of results of investigations using knowledge of method(s) including analytical principles and clinical information: Make decisions about reporting results, repeating procedures, consulting senior staff and carrying out further tests within established guidelines
3.2.1	Use the administrative systems in place to communicate the results: Results are communicated in a timely manner and according to laboratory protocols.
3.3.1	Ensure that results with important diagnostic or treatment implications are communicated as per established protocols: Significant results, as defined by the laboratory, are identified
3.3.2	Ensure that results with important diagnostic or treatment implications are communicated as per established protocols: Results are interpreted in the light of clinical information provided and knowledge of the test(s) and limitations.

CODE	COMPETENCY
3.2.7	Use the administrative systems in place to communicate the results: Relevant reference intervals and, if appropriate, clinical decision limits are included in reports as per established protocols.
3.3.3	Ensure that results with important diagnostic or treatment implications are communicated as per established protocols: Urgent or significant results are communicated to appropriate personnel so they understand the significance, purpose of the communication and action required. This action is documented.
5.2.1	Identify and respond to unsafe work practices and breaches of regulations: All safe work practices (as laid down by legislative guidelines) are understood and promoted.
5.3.3	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: The disposal of biological, chemical, toxic and radioactive material is performed as per current legislation and guidelines.
5.3.4	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Protocols for incidents such as spills of biological, chemical, toxic and radioactive substances are followed in accordance with current regulations and guidelines.
5.3.9	Ensure correct procedures are followed for acquisition, collection, storage, transportation and disposal of biological, chemical, toxic and radioactive wastes: Laboratory workplace safety requirements are met when handling biological, chemical, toxic or radioactive substances.
6.5.4	Complies with profession's code of ethics: Confidential information gained in a professional capacity is not disclosed to unauthorised persons.
6.2.4	Maintain and update scientific/technical knowledge and skills: Opportunities to enhance learning from investigation of unusual clinical cases and/or results are pursued.
6.4.1	Recognises own abilities and level of professional competence: Work is only undertaken within the limits of one's abilities, qualifications and training.
6.5.3	Complies with profession's code of ethics: Practices detrimental to patients and others are avoided.
6.5.7	Complies with profession's code of ethics: A responsible approach to the community and the environment with respect to the handling and disposal of hazardous materials is maintained.
7.1.2	Accepts responsibility for own actions/omissions: Tasks are checked to ensure they are completed.
7.3.2	Demonstrates knowledge of contemporary ethical issues impinging on Medical Science: Rights of individuals/groups are recognised and protected.
7.4.1	Knowledge of new tests and their potential in the laboratory: Ongoing review of current literature for information on new or improved tests or procedures is performed.
9.1.1	Research, prepare and deliver appropriate presentations: Educational topics are researched, prepared and presented to health workers and others.
10.4.1	Prepare and deliver report: Contributions are made regarding the format and presentation of outcomes.
10.4.2	Prepare and deliver report: Preparation of verbal and/or written reports or article (including for publication) is undertaken.
10.4.3	Prepare and deliver report: Report is presented for peer review.
10.1.5	Contribute to planning and design of research and development projects: Relevant information is accessed online, from libraries and other sources.
10.3.2	Evaluate results and the need for further experimental work: Contributions are made to the interpretation of results and conclusions.

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

(MLS100 or MLS110) and enrolled in Program UB001 or SC211 or 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	Activity Participation	Individual	15%	Student will complete case studies during lab classes.	Refer to Format	In Class
All	2	Activity Participation	Group	15%	Group presentation up to 20 minute	Refer to Format	In Class
All	3a	Practical / Laboratory Skills, and Written Piece	Individual	50%	150 min + 10 min perusal each time	Refer to Format	In Class
All	3b	Examination - Centrally Scheduled	Individual	20%	120min + 10min perusal	Exam Period	Exam Venue

All - Assessment Task 1: Haematology lab learning portfolio

GOAL:	The goal is for students to relate haematology theory from lectures/learning materials with laboratory practice in the case studies and exercises provided in the lab classes.
PRODUCT:	Activity Participation
FORMAT:	Assessments will be conducted for case studies in labs 3, 5, 9 and 10.
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

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

All - Assessment Task 2: Group 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. Presentations will take place in either the week 10 or 11 laboratory class.
PRODUCT:	Activity Participation
FORMAT:	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 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: 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	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	2 3
4	Prepare a well-designed PowerPoint slide, case study and presentation and keep good time management	1
5	Participate as part of the group to peer assess the oral presentation of another group	1 2 3

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

All - Assessment Task 3a: Theory & practical assessment

GOAL:	To develop advanced laboratory skills and competencies in Haematology that would meet the requirements of AIMS for training of medical laboratory scientists.
PRODUCT:	Practical / Laboratory Skills, and Written Piece
FORMAT:	There are 2 practical and theory exams, that will take place during the scheduled week 7 and week 12 lab class. In week 7 it will examine contents from week 1 to 6 inclusive. In week 12 it will examine contents from week 1 to 11 inclusive. Students will review case studies, report on blood films and respond to short answer questions. The exam will assess your competency in haematological techniques, your ability to interpret results, apply haematology knowledge and write a report using appropriate haematology terminology 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
3	Ability to assess laboratory parameters for paediatric, geriatric and obstetric haematology	1 2

GENERIC SKILLS:	Communication, Problem solving, Organisation, Applying technologies, Information literacy

All - Assessment Task 3b: Final theory exam

GOAL:	For the student to - demonstrate their knowledge and understanding of theoratical, diagnostic, practical and clinical concepts of haematology covered in week 1 to 12. - synthesise the elements of the course, analyse information and explain elements of the theories which underpin the concepts in advanced haematology covered as the course progresses. - 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 theory examination will be centrally scheduled, invigilated and take place on campus. It will consist of multiple choice questions, short answer questions & case studies.

CRITERIA:

No.		Learning Outcome assessed
1	Assessment will be based on theoratical, diagnostic, practical and clinical concepts of haematology covered in week 1 to 12	1 2 3
2	Haematological techniques and interpretation of results.	1
3	Examination and understanding of diagnostic tests for haematological malignant blood films.	1 2 3
4	Ability to assess laboratory parameters for paediatric, geriatric and obstetric haematology.	1 2 3

GENERIC SKILLS:	Communication, Problem solving, Organisation, Applying technologies, Information literacy

6.4. Assessment to competency mapping

PROGRAMME DELIVERY MODE	ASSESSMENT TYPE	TITLE	COMPETENCY	TEACHING METHODS
AIMS - COMPETENCY-BASED STANDARDS FOR MEDICAL SCIENTISTS				
All delivery modes	Activity Participation	Haematology lab learning portfolio	1.1.2	Taught, Practiced, Assessed
			1.1.3	Taught, Practiced, Assessed
			1.2.3	Taught, Practiced, Assessed
			1.5.1	Taught, Practiced, Assessed
			1.6.1	Taught, Practiced, Assessed
			2.3.1	Taught, Practiced, Assessed
		Group Case study (15%)	2.1.1	Taught, Practiced, Assessed
			6.2.4	Taught, Practiced, Assessed
			9.1.1	Taught, Practiced, Assessed
	Examination - Centrally Scheduled	Final theory exam	2.1.1	Taught, Practiced, Assessed
	Practical / Laboratory Skills, and Written Piece	Theory & practical assessment	1.1.1	Taught, Practiced, Assessed
			2.1.1	Taught, Practiced, Assessed

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
n/a	n/a

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
Recommended	Elaine Keohane,Larry Smith,Jeanine Walenga	2019	Rodak's Hematology	n/a	Saunders

8.2. Specific requirements

To successfully complete the UB001 Bachelor of Medical Laboratory Science (Pathology) and meet accreditation requirements of AIMS, UB001 students enrolled in MLS201 must attend and participate in all on-campus practical classes. All theory assessments will be invigilated. UB001 students must attain ≥50% for theory and ≥50% laboratory practical assessment.

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

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

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 or using the SafeZone app. For general enquires contact the SafeUniSC team by phone 07 5456 3864 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 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