COURSE OUTLINE

BIM203 Blood Banking and Transfusion Sciences

School: School of Health - Biomedicine

2024 | 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 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

In this course you will study blood group antigen and antibody systems, their interactions and how they relate to the clinical practice of blood transfusion. Building on your knowledge of haematology, you will learn the theory and develop competencies in laboratory techniques including the ABO, Rh and other blood group systems; donor screening, blood collection, preparation and use; blood grouping, antibody screening, cross-matching; problems associated with pregnancy; the risk and benefits of transfusions, strategies to investigate adverse effects of transfusions and tissue-typing.

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 tutorial to discuss case based application of blood banking and transfusion concepts.	2hrs	Week 1	7 times
Laboratory 1 – On campus laboratories to develop competencies in blood banking techniques and investigation of transfusion cases.	3hrs	Week 2	6 times

1.3. Course Topics

- Major blood group systems;
- Blood products;
- Quality control in the blood bank laboratory
- Antibody detection and identification;
- Pre-transfusion testing procedures;
- Haemolytic disease of the new born
- Adverse effects of transfusion
- Risk and benefits of transfusions
- Apheresis in transfusion practice
- Transfusion transmitted diseases
- The HLA system. Organ and Stem Cell Transplants
- Neutrophil antigens and antibodies in transfusion practice
- Platelet antigens and antibodies in transfusion practice

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 Completing these tasks successfully will contribute to you becoming...
1	Explain, describe, analyse and interpret antigen antibody interactions as they relate to blood banking and transfusion sciences and transplantation disorders	Knowledgeable Empowered
2	Investigate and analyse clinical issues in blood banking and transfusion sciences and their link to the local and global community	Knowledgeable Creative and critical thinker Empowered Ethical Engaged Sustainability-focussed
3	Demonstrate an understanding of the professional and ethical responsibilities inherent in blood transfusion and tissue transplantation in clinical practice.	Knowledgeable Creative and critical thinker Empowered Ethical Engaged Sustainability-focussed

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

LFS112 and MLS110 and enrolled in Program SC211, SC355 or SC357

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

MLS212

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

There will be a 5% quiz on weeks 2,4 & 6 and 10% quizzes on weeks 8,10 & 13 to assess your comprehension of the key theoretical, practical, and clinical concepts covered thus far. Feedback on these concepts and the quiz will take place in the subsequent tutorial .

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	45%	15 to 25 minutes	Throughout teaching period (refer to Format)	In Class
All	2	Literature Review (or component)	Individual	25%	The written assignment will be between 1500 to 2000 words long, and 10-15min interview on content of submitted assignment.	Week 7	Online Assignment Submission with plagiarism check
All	3	Practical / Laboratory Skills	Individual	30%	160 minutes	Week 12	In Class

All - Assessment Task 1: Intra semester review quizzes

GOAL:	To demonstrate your understanding of key theoretical, practical, and clinical concepts covered in weeks 1-12 of the course
PRODUCT:	Quiz/zes
FORMAT:	Multi choice and short answer questions. Quizzes on week 2,4 & 6 are worth 5% and on weeks 8,10 & 13 are worth 10%.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Technical & clinical concepts — 1 2 2 Explanation & interpretation — 1 2 3 3 Identification of ethical & sustainable practices — 2 3
GENERIC SKILLS:	Problem solving, Applying technologies, Information literacy

All - Assessment Task 2: Research Study Assignment

GOAL:	To demonstrate your knowledge and understanding of clinical issues in blood banking and transfusion sciences and how they relate in a broader population or social context.
PRODUCT:	Literature Review (or component)
FORMAT:	A small number of blood banking topics will be provided for you to choose from at the beginning of the semester. Students may choose to review other blood banking topics with the approval of the Course Coordinator. Students will be provided with instructions on how to complete the written assignment, including detailed requirements for the assignment and a marking rubric will be provided on Canvas. In addition, during the tutorial on week 9, each student will meet with the Course Coordinator (10-15min) to discuss the content of their assignment to assess their knowledge and understanding of the content of their submitted assignment.

CRITERIA:

No.		Learning Outcome assessed
1	demonstration of blood banking and transfusion science knowledge	1 2 3
2	ability to source and reference current relevant scientific information	2 3
3	ability to analyse, interpret and summarise relevant information	1 2 3
4	linking implications to global and local community	1 2 3
5	identification of ethical issues	2 3
6	adherence to format	2 3

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

All - Assessment Task 3: Practical Exam

GOAL:	The laboratory practical exam will be based on the application and interpretation of blood banking theory, concepts and skills encountered in practical classes throughout the semester.
PRODUCT:	Practical / Laboratory Skills
FORMAT:	Multi-choice and short answer questions

CRITERIA:

No.		Learning Outcome assessed
1	principles, theories, and concepts	1 2
2	importance of blood banking and transfusion sciences in the local and global community	2
3	scientific terminologies	1

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.

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	Paula R. Howard	2020	Basic and Applied Concepts of Blood Banking and Transfusion Practices	5th	Mosby

8.2. Specific requirements

BIM203 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 material, laboratories, tutorials). To gain such proficiency you must attend and participate in at least 80% of the tutorials and laboratory practicals throughout the semester before you are permitted to attempt the Assessment Task 3 (practial exam), and you must attain a minimum of 50% result for Task 3..
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

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. 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