



Course Outline

Code: BIM203

Title: Blood Banking and Transfusion Sciences

School of:	Health & Sport Science
Teaching Session:	Semester 2
Year:	2019
Course Coordinator:	Associate Professor Lin Fung Email: ylfung@usc.edu.au
Course Moderator:	Geoff Simon

Please go to the USC website 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 Course topics

Topics covered include:

- 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 - Applying broad and/or deep knowledge and skills to new contexts. May require pre-requisites and introductory level knowledge/skills. Normally undertaken in the 2nd or 3rd 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?

Specific Learning Outcomes On successful completion of this course you should be able to:	Assessment Tasks You will be assessed on the learning outcome in task/s:	Graduate Qualities or Professional Standards mapping Completing these tasks successfully will contribute to you becoming:
Explain, describe, analyse and interpret antigen: antibody interactions as they relate to blood banking and transfusion sciences and transplantation disorders	Review Quiz End of semester exam Research Assignment	Knowledgeable. Empowered.
Investigate and analyse clinical issues in blood banking and transfusion sciences and their link to the local and global community	Research Assignment	Sustainability-focussed.
Demonstrate an understanding of the professional and ethical responsibilities inherent in blood transfusion and tissue transplantation in clinical practice.	Review Quiz Research Assignment End of semester exam	Ethical. Sustainability-focussed.

5. Am I eligible to enrol in this course?

Refer to the [USC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1 Enrolment restrictions

Enrolled in program SC211, SC355 or SC357

5.2 Pre-requisites

LFS112 and MLS110

5.3 Co-requisites

Nil

5.4 Anti-requisites

MLS212

5.5 Specific assumed prior knowledge and skills (where applicable)

Not Applicable

6. How am I going to be assessed?

6.1 Grading scale

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

6.2 Details of early feedback on progress

From week 2 during the laboratory practical class there will be a 5% quiz 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 tutorials conducted on the odd weeks.

6.3 Assessment tasks

Task No.	Assessment Tasks	Individual or Group	Weighting %	What is the duration / length?	When should I submit?	Where should I submit it?
1	Intra semester review quizzes	Individual	30% (5% per quiz)	20 minutes	During of practical class in weeks 2, 4, 6, 8, 10 and 12	In class
2	Research Study Assignment	Individual	35%	Between 1500 to 2000 words	4.00pm Friday Week 7	Electronic submission via Safe Assign
3	End of semester exam	Individual	35%	120 minutes	Central examination period	Centrally scheduled
			100%			

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:	Six review quizzes
Format:	Multi choice and short answer questions, held in lab time during week 2,4,6,8,10 and 12
Criteria:	You will be assessed on the following blood banking and transfusion science aspects: <ul style="list-style-type: none"> - technical and clinical concepts - explanation and interpretation - identification of ethical and sustainable practices

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.
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. You will be provided with instructions on how to complete the assignment, including detailed requirements for the assignment and a marking rubric, will be provided on Blackboard at the beginning of the semester. You will be expected to submit an electronic copy via SafeAssign.
Criteria:	You will be assessed on: <ul style="list-style-type: none"> - demonstration of blood banking and transfusion science knowledge - ability to source and reference current relevant scientific information - ability to analyse, interpret and summarise relevant information - linking implications to global and local community - identification of ethical issues - adherence to format

Assessment Task 3: End of Semester Exam

Goal:	To demonstrate your understanding of key theoretical, practical, and clinical concepts covered in the course. This includes attending and participating in at least 80% of the laboratory practicals of this course.
Product:	Exam
Format:	Multi-choice and short answer 2 hours
Criteria:	Accuracy and description of: -principles, theories, and concepts - importance of blood banking and transfusion sciences in the local and global community -link to blood banking and transfusion science issues to a broader population or social context in relation to professional and ethical responsibilities in clinical practice - scientific terminologies

7. What are the course activities?**7.1 Directed study hours**

The directed study hours listed here are a portion of the workload for this course. 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. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

Location: Specific Campus(es) or online:	Directed study hours for location:
USC Sunshine Coast	1 x 2-hour lecture per week (comprised of 1-hr lecture followed by 1-hr lectorial) 1 x 3-hour of practical per fortnight (even weeks) 1 x 1-hour tutorial per fortnight (odd weeks)

7.2 Course content

Week # / Module #	What key concepts/content will I learn?
1	Basic Principles in the Immunology and Genetics used in Blood Banking
2	ABO and Rh Blood Group Systems
3	Other Blood Group Systems
4	Pre-transfusion and compatibility testing
5	Autoantibodies, Blood product selection and use
6	Haemolytic Disease of the Newborn and Transfusion in Clinical Practice
7	Adverse Transfusion Events, Haemovigilence and Patient Blood Management
8	Blood Donor Selection, Product Preparation & Testing
9	Apheresis in transfusion practice
10	Transfusion Transmitted Diseases
11	The HLA system, Transplants and Molecular Immunohaematology
12	Platelet Antigens & Antibodies in Transfusion Practice
13	Neutrophil Antigens & Antibodies in Transfusion Practice

Please note that the course activities may be subject to variation.

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

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

8.1 Prescribed text(s)

Please note that you need to have regular access to the resource(s) listed below as they are required:

Author	Year	Title	Publisher
Howard, PR	2016	Basic and Applied Concepts of Blood Banking and Transfusion Practices, 4th edition	Mosby Elsevier. ISBN: 978 0 323 374781

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 (lectures, laboratories, tutorials). 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 attempt the End of Semester 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. Risk management

Health and safety risks for this course have been assessed as low. However, once you are on placement or working following graduation, you may handle infectious and other samples and be exposed to other risks. Development and demonstration of competencies through participation in laboratory practicals are critical to prepare you for working in industry. It is your responsibility to familiarise yourself with the Health and Safety policies and procedures. The practical manual provides information regarding safety in the laboratory, information for handling or working with equipment and consumables in a safe manner. The laboratories are used for practicals involving human tissues and fluids, and there is to be no eating or drinking in the laboratories. It is your responsibility to be safety conscious for yourself and those around you. Be aware of the safety precautions when handling equipment, chemical solutions, glass and tissues/fluid.

It is your responsibility as a student 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. It is also your responsibility to familiarise yourself with the University's general health and safety principles by reviewing the [online Health Safety and Wellbeing training module 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 Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

10.2 Assessment: Additional requirements

Eligibility for Supplementary Assessment

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 will be penalised at the following maximum rate:

- 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 and supply the required documentation to negotiate an outcome.

10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to [Student Hub](#).

Contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au

10.5 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
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website:

<http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.6 General Enquiries

In person:

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

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au