



# Unit Outline (Higher Education)

**Institute / School:** Institute of Innovation, Science & Sustainability

**Unit Title:** HISTOPATHOLOGY AND HAEMATOLOGY

**Unit ID:** SCMED3034

**Credit Points:** 15.00

**Prerequisite(s):** (SCMED2010 or SCMED2011)

**Co-requisite(s):** Nil

**Exclusion(s):** (SCMED3032 and SCMED3033)

**ASCED:** 060113

**Description of the Unit:**

The purpose of this unit is to develop a detailed understanding of the histopathology and haematology discipline specifically relevant to routine diagnostic pathology and haematology environments. The unit focuses on patient diagnosis based on the knowledge, practical and technical skills relevant to the field. The course content is primarily focused on (1) histological techniques with an emphasis on tissue preparation and the role of specific techniques in the diagnosis process and (2) diagnosis of blood cell disorders including anaemia, leukaemia, blood coagulation and bleeding disorders.

**Grade Scheme:** Graded (HD, D, C, P, MF, F, XF)

**Work Experience:**

No work experience: Student is not undertaking work experience in industry.

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

**Course Level:**

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory	■	■	■	■	■	■

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

### Learning Outcomes:

#### Knowledge:

- K1.** Discuss the key processes of fixation, tissue dissection, processing, embedding, microtomy and staining of paraffin-embedded solid tissue, as well as the blood film procedure.
- K2.** Describe key normal organ histology at a microscopic level.
- K3.** Relate immunohistochemical staining to the identification of pathology.
- K4.** Discuss the theoretical basis of flow cytometry and the interpretation of flow cytometry data.
- K5.** Identify cell types found in peripheral blood and explain the importance of erythropoiesis and hematopoiesis in human health and disease.
- K6.** Relate diagnostic analyses of blood to normal and abnormal conditions (e.g. anaemias), white blood cell normal and abnormal conditions (e.g. leukaemia) and platelet normal and abnormal conditions (e.g. disseminated intravascular coagulation and thrombocytopenia).

#### Skills:

- S1.** Demonstrate a variety of routine histological and haematological practices including procedures of dissection, embedding, cutting solid tissue, separation of blood cells, preparation of blood films, and staining.
- S2.** Develop inquiry and problem solving skills within a theoretical and practical context by collecting and accurately recording and interpreting health and disease data (e.g. histology, blood film, bone marrow, flow cytometry and biochemistry data).
- S3.** Select and apply appropriate practical and theoretical techniques in order to conduct an investigation relevant to histopathology and the diagnosis of a haematological condition.

#### Application of knowledge and skills:

- A1.** Design a course of action that demonstrates initiative, judgement, problem solving and decision making relevant to patient diagnosis and health outcomes based on scenario applications.
- A2.** Devise a variety of static and non-static responses to scenario applications which combine features of general pathology, structure and function of human tissue and diagnosis of disease.
- A3.** Appreciate histopathology diversity with regards to histology in context with diagnostic and forensic tissue specimens.
- A4.** Apply quality assurance procedures and safety procedures to a histological laboratory.

#### Unit Content:

Topics may include:

- Major Unit 1: Pathology lab safety, solid tissue fixation, tissue cut-up, processing, embedding and microtome, routine staining, special staining for connective tissue and immunohistochemistry.
- Major Unit 2: Knowledge of preparation of blood samples for blood films and flow cytometry, erythropoiesis and anaemia diagnosis, leukaemia diagnosis, platelet, blood coagulation, haemostasis, and diagnosis of thrombosis and bleeding disorders.

#### FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**tttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all must be directly assessed in each Course.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	<p>Students will demonstrate the ability to effectively communicate, inter-act and work with others both individually and in groups. Students will be required to display skills in-person and/or online in:</p> <ul style="list-style-type: none"> <li>• Using effective verbal and non-verbal communication</li> <li>• Listening for meaning and influencing via active listening</li> <li>• Showing empathy for others</li> <li>• Negotiating and demonstrating conflict resolution skills</li> <li>• Working respectfully in cross-cultural and diverse teams.</li> </ul>	K1, K2, K6, S1, S3, A4	2, 3
FEDTASK 2 Leadership	<p>Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in:</p> <ul style="list-style-type: none"> <li>• Creating a collegial environment</li> <li>• Showing self -awareness and the ability to self-reflect</li> <li>• Inspiring and convincing others</li> <li>• Making informed decisions</li> <li>• Displaying initiative</li> </ul>	S3, A1	2, 3
FEDTASK 3 Critical Thinking and Creativity	<p>Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in:</p> <ul style="list-style-type: none"> <li>• Reflecting critically</li> <li>• Evaluating ideas, concepts and information</li> <li>• Considering alternative perspectives to refine ideas</li> <li>• Challenging conventional thinking to clarify concepts</li> <li>• Forming creative solutions in problem solving.</li> </ul>	K1, K4, K6, S2, S3, A1, A2	1, 2, 3, 4

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 4 Digital Literacy	<p>Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in:</p> <ul style="list-style-type: none"> <li>Finding, evaluating, managing, curating, organising and sharing digital information</li> <li>Collating, managing, accessing and using digital data securely</li> <li>Receiving and responding to messages in a range of digital media</li> <li>Contributing actively to digital teams and working groups</li> <li>Participating in and benefiting from digital learning opportunities.</li> </ul>	K1, K3, K5, S1, S2, A2, A3, A4	1, 2, 3, 4
FEDTASK 5 Sustainable and Ethical Mindset	<p>Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in:</p> <ul style="list-style-type: none"> <li>Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts</li> <li>Committing to social responsibility as a professional and a citizen</li> <li>Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses</li> <li>Embracing lifelong, life-wide and life-deep learning to be open to diverse others</li> <li>Implementing required actions to foster sustainability in their professional and personal life.</li> </ul>	Not applicable	Not applicable

**Learning Task and Assessment:**

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-K6, S1-S3, A1-A3	These assessments assess knowledge and the application of the knowledge utilising a range of healthy tissues and patient data, and using interpretation skills to determining a patient diagnosis.	Tests	40-60%
S1-S3, A1-A2, A4	Presentation of procedures and techniques captured and explained by digital media techniques	Practical portfolio: Digital media presentations	10-20%
S1-S3	Written report on outcomes of practical techniques	Report of relevant practical knowledge	10-20%
S1-S3, A1-A3	Written responses to scenario applications involving both theoretical and practical knowledge	Scenario applications	15-25%

**Adopted Reference Style:**

Australian Harvard

Refer to the [library website](#) for more information

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