



SUBJECT OUTLINE

Subject Name:

Pathology and Clinical Science 1

Subject Code:

BIOC211

SECTION 1 – GENERAL INFORMATION

Award/s:	Total Course Credit Points:	Level:
Bachelor of Health Science (Naturopathy)	128	2 nd Year
Bachelor of Health Science (Nutritional and Dietetic Medicine)	96	2 nd Year
Bachelor of Complementary Medicine	48	2 nd Year
Duration: 1 Semester		
Subject is: Core	Subject Credit Points: 4	

Student Workload:

No. timetabled hours per week: 6	No. personal study hours per week: 4	Total hours per week: 10
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Delivery Mode*:

☐ On campus
 ☐ Online / Digital
 ☒ Blended
 ☐ Intensive

Weekly Session^ Format/s - 2 sessions per week:

<input checked="" type="checkbox"/> Livestream lectures:	<input checked="" type="checkbox"/> 2 hours	<input type="checkbox"/> 3 hours	2 x 2 hour livestream lectures per week
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<input checked="" type="checkbox"/> eLearning tutorials:	Tutorials: 2 x 1 hour Interactive online learning modules that include learning journal activities, interactive clinical cases or other web-based resources
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*All modes are supported by the online learning management system which will include subject documents such as handouts, readings and assessment guides.

^A 'session' is made up of 3 hours of timetabled / online study time per week unless otherwise specified. Each subject has a set number of sessions as outlined above.

Study Pattern: ☒ Full Time ☒ Part Time

Pre-requisites: BIOH122

Co-requisites: Nil

SECTION 2 – ACADEMIC DETAILS

Subject Rationale

This subject provides a comprehensive grounding in the study of pathology and disease states in conventional medicine. The emphasis in the beginning of the subject is on general pathological processes and how they affect



the whole body, as well as specific body systems. These responses include inflammation, hypersensitivity, autoimmunity, immunodeficiency and neoplasia and how they give rise to clinical signs and symptoms. There will also be an introduction to the concepts associated with the study of infectious diseases. In the latter part of this subject the emphasis is on the disease states of the systems involved with transport and metabolism — cardiovascular, respiratory, digestive and urinary. Students also learn the pathophysiology, clinical presentations, diagnostic tests, and management of significant systemic disorders relating to these systems. Students will have an understanding of the approach to formulate differential diagnosis. Upon successful completion of this subject, students should be able to apply the knowledge of basic pathological processes and to analyse and critically evaluate clinical features and tests and to understand the basis for the conventional differential diagnosis of relevant disorders related to the above systems. This is a foundational subject for the further study of clinical examination and for the advanced pathology and clinical science subjects.

Learning Outcomes

1. Identify cellular adaptations and major immune responses to stress (injury) leading to homeostatic imbalance and diseases.
2. Identify the key characteristics and basic differences in biochemistry, replication and transmission of viruses, prokaryotic and eukaryotic microbes and their management.
3. Describe pathological processes and analyse how they contribute to the development of the signs and symptoms of various diseases.
4. Apply the knowledge of clinical features of various diseases to formulate differential diagnosis.
5. Discuss tests used in the diagnosis and management of various diseases.

Assessment Tasks

Type	Learning Outcomes Assessed	Session Content Delivered	Due	Weighting
Online quiz	1-2	1-9	Week 6	20%
Case Study Assignment 1 (1500 words)	3-5	11-18	Week 10	40%
Case Study Assignment 2 (1500 words)	3-5	19-26	Week 15	40%

All written assessments and online quizzes are due at 11:55 p.m. Sunday and submitted through the LMS

Pass Requirements

To achieve a passing grade in this subject, students must:

- have a cumulative mark of at least 50%, and



- have submitted all assessment items with a value greater than 15%.

Prescribed Readings:

Norris, T. L. (2019). *Porth's pathophysiology: Concepts of altered health states* (10th ed.). Wolters Kluwer.

Penman, I. D., Ralston, S. H., Strachan, M. W. J., & Hobson, R. P. (Eds.). (2023). *Davidson's principles and practice of medicine* (24th ed.). Elsevier.

Recommended Readings:

Jamison, J. R. (2006). *Differential diagnosis for primary care: A handbook for health care practitioners* (2nd ed.). Churchill Livingstone.

Jarvis, C. (2019). *Physical examination & health assessment* (8th ed.). Elsevier.

Lee, G., & Bishop, P. (2016). *Microbiology and infection control for health professionals* (6th ed.). Pearson Australia.

Murphy, K. (2017). *Janeway's immunobiology* (9th ed.). Garland Science.

Pagana, K. D., Pagana, T. J., & Pagana, T. N. (2019). *Mosby's diagnostic and laboratory test reference* (14th ed.). Elsevier. [ebook available]

VanMeter, K. C., & Hubert, R. J. (2014). *Gould's pathophysiology for the health professions* (5th ed.). Elsevier. [ebook available]

Subject Content

Week	Lectures	Tutorials / Practicals
1.	<p>Session 1</p> <p>Introduction (Subject Outline / Subject Aims / Assessment / Teaching Resources)</p> <p>An Introduction to Pathophysiology and effects on body systems</p> <ul style="list-style-type: none"> ➤ Review of the normal immune response <ul style="list-style-type: none"> ➤ Non-specific immunity ➤ Specific immune responses ➤ Cell Adaptation ➤ Inflammation <ul style="list-style-type: none"> ➤ Acute ➤ Chronic ➤ Tissue Repair 	<p>Post lecture: Videos or web resources or interactive materials to revise the concepts of medical terminologies and normal immune response of our body</p> <p>Review of inflammation and deep wound healing</p>
	<p>Session 2</p>	<p>Post lecture: Videos or web resources or interactive materials to review allergies, autoimmunity, and its importance in overall health</p>



	The Abnormal Immune Response - pathophysiology / clinical presentations / investigations / management <ul style="list-style-type: none"> ➤ Hypersensitivity ➤ Autoimmunity ➤ Immunodeficiency 	
2.	Session 3 Infection <ul style="list-style-type: none"> ➤ Causes of infection ➤ The normal course of an infection ➤ Presenting problems in infections ➤ Common infections and their management 	Post lecture: Videos or web resources or interactive materials to review the concept of infection control and prevention, disease transmission and the chain of infection
	Session 4 Bacteria <ul style="list-style-type: none"> ➤ Classification, biochemistry and replication ➤ Normal flora, pathogenic organisms of clinical importance 	Post lecture: Videos or web resources or interactive materials to review the structure of bacteria, antibiotic resistance, skin microbes, and the benefits of phage therapy
3.	Session 5 Viruses <ul style="list-style-type: none"> ➤ Classification, biochemistry and replication ➤ Pathogenic organisms of clinical importance 	Post lecture: Videos or web resources or interactive materials to review viral structure, current treatments, HIV epidemiology, transmission & replication
	Session 6 Fungi <ul style="list-style-type: none"> ➤ Classification, biochemistry and replication ➤ Pathogenic organisms of clinical importance Parasites <ul style="list-style-type: none"> ➤ Classification, biochemistry and replication ➤ Pathogenic organisms of clinical importance 	Post lecture: Videos or web resources or interactive materials to review fungi, parasites and helminths, including their biochemistry, replication, transmission, and clinical treatments
4.	Session 7 Neoplasia <ul style="list-style-type: none"> ➤ Three step model of cancer development ➤ Epidemiology ➤ Malignant vs. benign tumors: Patterns of presentation and prognosis ➤ Staging of cancers 	Post lecture: Videos or web resources or interactive materials to review the neoplastic concepts of cell mutation, carcinogenesis and risk factors for cancer, along with angiogenesis, metastasis, and micrographs
	Session 8 Current Advances in Cancer Pathology <ul style="list-style-type: none"> ➤ Pathophysiology of cancer ➤ Diagnostic measures of cancer 	Post lecture: Videos or web resources or interactive materials to review novel treatments and anti-angiogenic foods



	<ul style="list-style-type: none"> ➤ Treatment of cancer 	
5.	<p>Session 9</p> <p>Common Symptomatology – pathophysiology / management</p> <ul style="list-style-type: none"> ➤ Pain ➤ Headache ➤ Nausea and vomiting ➤ Cough and breathlessness ➤ Diarrhoea and constipation ➤ Anorexia and weight change ➤ Fatigue, malaise and lethargy ➤ Fever ➤ Skin changes and rashes 	<p>Post lecture: Videos or web resources or interactive materials to review the pain pathway, headaches, and common signs and symptoms</p>
	<p>Session 10</p> <p>Assessment Support</p>	
6.	<p>Session 11</p> <p>Gastrointestinal Tract Disorders 1 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Mouth and upper gastrointestinal tract ➤ Examination and investigation of the digestive system ➤ Clinical features of gastrointestinal disease ➤ Diseases of the mouth ➤ Diseases of the oesophagus <ul style="list-style-type: none"> ➤ GORD ➤ Hiatus hernia ➤ Oesophagitis 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the gastrointestinal tract</p>
	<p>Session 12</p> <p>Gastrointestinal Tract Disorders 2 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Stomach and small intestine ➤ Diseases and disorders of the stomach and duodenum ➤ Diseases of the small intestine ➤ Infections of the small intestine ➤ Food intolerance 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the gastrointestinal tract</p>



7.	<p>Session 13</p> <p>Gastrointestinal Tract Disorders 3 - pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Pancreas and inflammation ➤ Diseases of the pancreas ➤ Inflammatory bowel disease ➤ Irritable bowel syndrome (IBS) 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the gastrointestinal tract</p>
	<p>Session 14</p> <p>Gastrointestinal Tract Disorders 4 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Large intestine and GI cancers ➤ Disorders of the colon and rectum <ul style="list-style-type: none"> ⊗ Diverticulosis ⊗ Constipation and problems with defecation ⊗ Anorectal disorders ⊗ Haemorrhoids ⊗ Anal fissure ⊗ Oesophageal cancer ⊗ Gastric carcinoma ⊗ Pancreatic carcinoma ⊗ Colorectal cancer 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the gastrointestinal tract</p>
<p>NON-TEACHING WEEK (note that make-up classes may be scheduled in this week)</p> <p>Semester 1 – This aligns with the week after Easter so it may fall between Weeks 6 to 8</p> <p>Semester 2 & Online students – The non-teaching week falls between Weeks 7 and 8</p>		
8.	<p>Session 15</p> <p>Gastrointestinal Tract Disorders 5 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Liver and biliary tract ➤ Liver and biliary tract disease ➤ Common clinical features ➤ Hepatic encephalopathy ➤ Acute liver failure ➤ Chronic liver failure ➤ Chronic liver disease 	<p>Post lecture: Videos or web resources or interactive materials related to conditions of the liver and biliary tree</p>



	<ul style="list-style-type: none"> ➤ Cirrhosis ➤ Portal hypertension ➤ Viral hepatitis ➤ Alcoholic liver disease ➤ Non-alcoholic fatty liver disease ➤ Inherited liver diseases ➤ Haemochromatosis ➤ Tumours of the liver ➤ Gallstones ➤ Cholecystitis 	
	<p>Session 16</p> <p>Urinary Tract Disorders 1 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Examination and investigation of the urinary system ➤ Clinical features of renal disease ➤ Cystitis/ UTIs ➤ Urinary incontinence ➤ Reflux nephropathy / Chronic pyelonephritis 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the urinary system</p>
9.	<p>Session 17</p> <p>Urinary Tract Disorders 2 - pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Renal vascular disease ➤ Glomerular diseases ➤ Kidney stones ➤ Nephrocalcinosis 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the urinary system</p>
	<p>Session 18</p> <p>Urinary System Disorders 3 – pathophysiology / clinical presentations / investigations /management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Tubulo-interstitial diseases ➤ Acute / Chronic renal failure ➤ Polycystic kidney disease ➤ Tumours of the kidney 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the urinary system</p>
10.	<p>Session 19</p> <p>Cardiovascular System Disorders 1 – pathophysiology / clinical presentations /</p>	<p>Post lecture: Videos or web resources or interactive materials on conditions of the cardiovascular system</p>



	investigations / management / differential diagnosis <ul style="list-style-type: none"> ➤ Examination and investigation of the cardiovascular system ➤ Clinical features of cardiovascular disease ➤ Disorders of heart rate, rhythm and conduction ➤ Complications of cardiovascular disease ➤ Acute circulatory failure ➤ Heart failure 	
	Session 20 Cardiovascular System Disorders 2 – pathophysiology / clinical presentations / investigations / management / differential diagnosis <ul style="list-style-type: none"> ➤ Atherosclerosis ➤ Vascular disease ➤ Hypertension 	Post lecture: Videos or web resources or interactive materials on conditions of the cardiovascular system
11.	Session 21 Cardiovascular System Disorders 3 – pathophysiology / clinical presentations / investigations / management / differential diagnosis <ul style="list-style-type: none"> ➤ Coronary heart disease ➤ Angina ➤ Myocardial infarction 	Post lecture: Videos or web resources or interactive materials
	Session 22 Cardiovascular System Disorders 4 – pathophysiology / clinical presentations / investigations / management / differential diagnosis <ul style="list-style-type: none"> ➤ Diseases of the heart valves ➤ Diseases of the myocardium ➤ Diseases of the pericardium ➤ Chronic constrictive pericarditis 	Post lecture: Videos or web resources or interactive materials on conditions of the cardiovascular system
12.	Session 23 Respiratory System Disorders 1 – pathophysiology / clinical presentations / investigations / management / differential diagnosis <ul style="list-style-type: none"> ➤ Examination and investigation of the respiratory system 	Post lecture: Videos or web resources or interactive materials on conditions of the respiratory system



	<ul style="list-style-type: none"> ➤ Clinical features of respiratory disease ➤ Respiratory failure ➤ Influenza 	
	<p>Session 24</p> <p>Respiratory System Disorders 2 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Diseases of trachea and bronchi ➤ Obstructive pulmonary disease ➤ Cystic fibrosis ➤ Asthma ➤ COPD 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the respiratory system</p>
13.	<p>Session 25</p> <p>Respiratory System Disorders 3 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Respiratory infections ➤ Pneumonia ➤ Tuberculosis ➤ Infections of the lower respiratory system ➤ Respiratory diseases caused by fungi ➤ Pulmonary vascular disease 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the respiratory system</p>
	<p>Session 26</p> <p>Respiratory System Disorders 4 – pathophysiology / clinical presentations / investigations / management / differential diagnosis</p> <ul style="list-style-type: none"> ➤ Tumours of the bronchus and lung ➤ Interstitial and infiltrative pulmonary disease ➤ Lung disease due to organic dust ➤ Disorders of the chest wall and pleura ➤ Diseases of the diaphragm ➤ Deformities of the chest wall 	<p>Post lecture: Videos or web resources or interactive materials on conditions of the respiratory system</p>
14-15.	<p>Non-Teaching Week/Practical Examination Weeks 1 & 2</p> <p>Note that make-up classes may be scheduled in these weeks.</p>	
16-17.	<p>Final Examination Weeks 1 & 2</p> <p>There is no final exam for this subject</p>	