



# SUBJECT OUTLINE

Subject Name:

**Clinical Nutritional Medicine**

Subject Code:

**NMDC221**

## SECTION 1 – GENERAL INFORMATION

<b>Award/s:</b>	<b>Total Course Credit Points:</b>	<b>Level:</b>
Bachelor of Health Science (Naturopathy)	128	3 <sup>rd</sup> Year
Bachelor of Health Science (Nutritional and Dietetic Medicine)	96	2 <sup>nd</sup> Year
<b>Duration:</b> 1 Semester		
<b>Subject is:</b> Core	<b>Subject Credit Points:</b> 6	

Student Workload:		
<b>No. timetabled hours per week:</b> 9	<b>No. personal study hours per week:</b> 6	<b>Total hours per week:</b> 15
<b>Delivery Mode*:</b>		
<input type="checkbox"/> On campus	<input checked="" type="checkbox"/> Online / Digital	<input type="checkbox"/> Blended
		<input type="checkbox"/> Intensive
<b>Weekly Session^ Format/s - 3 sessions per week:</b>		
<input checked="" type="checkbox"/> Livestream lectures:	<input type="checkbox"/> 2 hours	<input checked="" type="checkbox"/> 3 hours
		2 x livestream lectures per week
<input checked="" type="checkbox"/> Livestream workshops / tutorials:	<input type="checkbox"/> 1 hour	<input checked="" type="checkbox"/> 3 hours
		1 x livestream tutorial per week
<p>*All modes are supported by the online learning management system which will include subject documents such as handouts, readings and assessment guides.</p> <p>^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.</p>		
<b>Study Pattern:</b>	<input checked="" type="checkbox"/> Full Time	<input checked="" type="checkbox"/> Part Time
<b>Pre-requisites:</b>	NMDM121, BIOC211, NMDF211	
<b>Co-requisites:</b>	BIOS222	

## SECTION 2 – ACADEMIC DETAILS

### Subject Rationale

This subject integrates and consolidates knowledge gained from previous health science and nutritional and dietetic medicine subjects through an exploration of the nutritional management of various health conditions and individual cases. Students learn treatment strategies that incorporate dietary modification and nutritional management and learn to critically evaluate these from the perspectives of traditional empirical knowledge and evidence-based research. Potential drug-herb-nutrient interactions are critically discussed. Clinical Nutritional Medicine is an essential foundation for clinical practice.



## Learning Outcomes

1. Interpret clinical symptoms and signs, clinical examinations, and pathology testing in assessment of nutritional status and management of complex pathologies.
2. Evaluate current research to determine appropriate and effective nutritional therapeutic treatments for the management of different population groups and a variety of health conditions.
3. Construct appropriate therapeutic goals and strategies for the dietary and nutritional management of clients with common nutritional and lifestyle presentations.
4. Examine the evidence for potential drug-herb-food and nutrient interactions in the treatment of individual cases.
5. Discuss the advantages and limitations of nutritional supplementation and diet therapy in the management of individual case examples.

## Assessment Tasks

Type	Learning Outcomes Assessed	Session Content Delivered	Due	Weighting
<b>Case Study Part A</b> (1000 words)	1, 3-4	1-8	Week 4	30%
<b>Case Study Part B</b> (750 words + oral presentation)	1-5	9-16	Week 8	30%
<b>Professional Portfolio</b> (1500 words)	1-5	1-26	Week 13	40%
All written assessments and online quizzes are due at 11:55 p.m. Sunday and submitted through the LMS				

### Prescribed Readings:

1. Raymond, J.L. & Morrow, K. (2021). *Krause and Mahans food and the nutrition care process* (16<sup>th</sup> ed.). Elsevier.

### Recommended Readings:

1. Allman, T. (2010). *Nutrition and disease prevention*. Chelsea House.
2. Braun, L., & Cohen, M. (2014). *Herbs and natural supplements: An evidence-based guide* (4th ed., Vol. I – II). Churchill Livingstone Elsevier. [ebook available]
3. Braun, L., & Cohen, M. (2017). *Essential herbs and natural supplements*. Churchill Livingstone Elsevier.



4. Clifford, D., & Curtis, L. (2016). *Motivational interviewing in nutrition and fitness*. The Guildford Press. [ebook available]
5. Escott-Stump, S. (2015). *Nutrition and diagnosis-related care* (8th ed.). Wolters Kluwer.
6. Hechtman, L. (2020). *Advanced Clinical Naturopathic Medicine*. Elsevier Health Sciences
7. Pizzorno, J.E., & Murray, M. (2013). *Textbook of natural medicine* (4th ed.). Elsevier / Churchill Livingstone.
8. Sarris, J., & Wardle, J. (Eds.). (2019). *Clinical naturopathy: An evidence-based guide to practice* (3rd ed.). Elsevier Australia.
9. Stargrove, M. B., Treasure, J., & McKee, D. L. (2008). *Herb, nutrient and drug interactions: Clinical implications and therapeutic strategies*. Mosby Elsevier.
10. Worsely, T. (2008). *Nutrition promotion, theories and methods, systems and settings*. CABI. [ebook available]

## Subject Content

Week	Lectures	Tutorials / Practicals / Workshops
1.	<p>Session 1</p> <p><b>Introduction</b> (Subject Outline / Subject Aims / Assessment / Teaching Resources)</p> <ul style="list-style-type: none"> <li>➤ Introduction to clinical decision making</li> <li>➤ Overview of developing appropriate treatment aims, treatment goals and prescriptions</li> </ul> <p><b>Gastrointestinal Tract Disorders: Part 1</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Diseases of the mouth and oesophagus <ul style="list-style-type: none"> <li>➤ GORD</li> <li>➤ Hiatus hernia</li> <li>➤ Oesophagitis</li> </ul> </li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 1 and 2:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 2</p> <p><b>Gastrointestinal Tract Disorders: Part 2</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Diseases of the stomach and duodenum <ul style="list-style-type: none"> <li>➤ Dysbiosis</li> <li>➤ Ulcers</li> </ul> </li> <li>➤ Disease and infection of the small intestine <ul style="list-style-type: none"> <li>➤ Food Intolerance vs Food allergy</li> <li>➤ Disease of the pancreas, including inflammation</li> <li>➤ Inflammatory Bowel Disease</li> <li>➤ Irritable Bowel Syndrome</li> </ul> </li> </ul>	



	<p>⌚ Celiac disease</p>	
2.	<p>Session 3</p> <p><b>Gastrointestinal Tract Disorder: Part 3</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Large intestine (colon and rectum) <ul style="list-style-type: none"> <li>⌚ Diverticulitis</li> <li>⌚ Constipation and Diarrhoea</li> <li>⌚ Haemorrhoids</li> <li>⌚ Tumours of the digestive system</li> </ul> </li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 3 and 4:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 4</p> <p><b>Gastrointestinal Tract Disorders: Part 4</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Liver and biliary tract <ul style="list-style-type: none"> <li>⌚ Gallstones</li> <li>⌚ Cholecystitis</li> <li>⌚ Cirrhosis</li> <li>⌚ Viral hepatitis</li> <li>⌚ Alcoholic liver disease</li> <li>⌚ Non-alcoholic liver disease</li> </ul> </li> </ul>	
3.	<p>Session 5</p> <p><b>Cardiovascular System Disorders</b></p> <ul style="list-style-type: none"> <li>➤ Identifying emergency situations and determining appropriate actions</li> </ul> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Atherosclerosis</li> <li>➤ Hyperlipidaemia</li> <li>➤ Hypertension</li> <li>➤ Coronary heart disease</li> <li>➤ Angina</li> <li>➤ Myocardial infarction</li> <li>➤ Primary and secondary prevention of cardiovascular disorders and events</li> <li>➤ Post cardiovascular events</li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 5 and 6:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 6</p> <p><b>Cerebrovascular and Peripheral Vascular Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Raynaud's disease</li> <li>➤ Varicose veins</li> </ul>	



	<ul style="list-style-type: none"> <li>➤ Vascular disease</li> <li>➤ Post cerebrovascular events</li> </ul>	
4.	<p>Session 7</p> <p><b>Respiratory System Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Asthma</li> <li>➤ COPD</li> <li>➤ Pneumonia</li> <li>➤ Bronchitis (acute)</li> <li>➤ Infections of the upper respiratory system                             <ul style="list-style-type: none"> <li>⊗ Sinusitis</li> <li>⊗ Colds and Flu</li> <li>⊗ Allergic rhinitis</li> <li>⊗ Otitis media</li> </ul> </li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 7 and 8:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 8</p> <p><b>Ocular Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Diseases of the eye, including:                             <ul style="list-style-type: none"> <li>⊗ Cataracts</li> <li>⊗ Glaucoma</li> <li>⊗ Conjunctivitis</li> <li>⊗ Age-related macular degeneration</li> <li>⊗ Dry eye</li> </ul> </li> </ul>	
5.	<p>Session 9</p> <p><b>Lymphatic and Haematological Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Iron deficiency anaemia</li> <li>➤ Non-iron deficiency anaemias</li> <li>➤ Thrombosis</li> <li>➤ Bleeding disorders</li> <li>➤ Haematological malignancies</li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 9 and 10:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 10</p> <p><b>Integumentary System Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Atopic eczema</li> <li>➤ Psoriasis</li> <li>➤ Skin infections</li> <li>➤ Acne vulgaris</li> </ul>	



	<ul style="list-style-type: none"><li>➤ Rosacea</li><li>➤ Skin tumours</li></ul>	
6.	<p>Session 11</p> <p><b>Musculoskeletal System Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"><li>➤ Inflammatory joint diseases:<ul style="list-style-type: none"><li>⌚ Osteoarthritis</li><li>⌚ Rheumatoid arthritis</li><li>⌚ Gout</li></ul></li><li>➤ Diseases of the bone including:<ul style="list-style-type: none"><li>⌚ Osteopaenia</li><li>⌚ Osteoporosis</li><li>⌚ Osteomalacia and rickets</li></ul></li></ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 11 and 12:</p> <ul style="list-style-type: none"><li>➤ Case analysis</li><li>➤ Investigation of possible drug interactions and nutritional treatment</li><li>➤ Development of treatment aims, goals and prescriptions</li><li>➤ Facilitated group work</li></ul>
	<p>Session 12</p> <p><b>Urinary Tract Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"><li>➤ Cystitis / Urinary tract infections (UTIs)</li><li>➤ Urinary incontinence</li><li>➤ Kidney stones</li><li>➤ Kidney disease</li></ul>	
7.	<p>Session 13</p> <p><b>Endocrine System Disorders 1</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"><li>➤ Thyroid, parathyroid, adrenals:<ul style="list-style-type: none"><li>⌚ Grave's Disease</li><li>⌚ Hashimoto's Disease</li><li>⌚ Parathyroid diseases</li><li>⌚ Adrenal disease</li></ul></li></ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 13 and 14:</p> <ul style="list-style-type: none"><li>➤ Case analysis</li><li>➤ Investigation of possible drug interactions and nutritional treatment</li><li>➤ Development of treatment aims, goals and prescriptions</li><li>➤ Facilitated group work</li></ul>
	<p>Session 14</p> <p><b>Endocrine System Disorders 2</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"><li>➤ Pancreatitis</li><li>➤ Diabetes Mellitus 1</li><li>➤ Diabetes Mellitus 2</li><li>➤ Gestational Diabetes</li></ul>	
<p><b>NON-TEACHING WEEK</b> (note that make-up classes may be scheduled in this week)</p> <p><b>Semester 1</b> – This aligns with the week after Easter so it may fall between Weeks 6 to 8</p> <p><b>Semester 2</b> – The non-teaching week falls between Weeks 7 and 8</p>		



8.	<p>Session 15</p> <p><b>Male Reproductive Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Prostate disorders</li> <li>➤ Hormonal imbalance conditions</li> <li>➤ Sexual dysfunction</li> <li>➤ Hypogonadism</li> <li>➤ Penile and testicular disorders, including cancer</li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 15 and 16:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 16</p> <p><b>Sexually Transmitted Infections</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Sexually transmitted diseases <ul style="list-style-type: none"> <li>⊗ Viral</li> <li>⊗ Bacterial</li> <li>⊗ Fungal</li> </ul> </li> </ul>	
9.	<p>Session 17</p> <p><b>Female Reproductive Disorders 1</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Female Reproductive disorders <ul style="list-style-type: none"> <li>⊗ Delayed puberty</li> <li>⊗ Menstrual disorders</li> <li>⊗ Pelvic inflammatory disease</li> <li>⊗ Polycystic ovary disease</li> <li>⊗ Uterine disorders &amp; cancers</li> </ul> </li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 17 and 18:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 18</p> <p><b>Female Reproductive Disorders 2</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Breast disorders: <ul style="list-style-type: none"> <li>⊗ Mastitis</li> <li>⊗ Fibrocystic changes</li> <li>⊗ Cancers</li> </ul> </li> <li>➤ Infertility</li> </ul>	
10.	<p>Session 19</p> <p><b>Paediatric Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Croup</li> <li>➤ Cognitive/behavioural issues (autism, ADHD)</li> <li>➤ Failure to thrive</li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 19 and 20:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> </ul>





	<ul style="list-style-type: none"> <li>➤ Iron deficiency</li> <li>➤ Childhood digestive issues</li> <li>➤ Childhood cancers</li> </ul>	<ul style="list-style-type: none"> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 20</p> <p><b>Geriatric Conditions and Healthy Aging</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Malnutrition</li> <li>➤ Oral health</li> <li>➤ Incontinence and constipation</li> <li>➤ Ageing and the digestive system</li> <li>➤ Polypharmacy</li> </ul>	
11.	<p>Session 21</p> <p><b>Nervous System Disorders 1</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Headaches and migraines</li> <li>➤ Insomnia</li> <li>➤ Atypical neurology</li> <li>➤ CNS infections</li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 21 and 22:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 22</p> <p><b>Nervous System Disorders 2</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Inflammatory and degenerative diseases</li> <li>➤ Parkinson's disease</li> <li>➤ Multiple sclerosis</li> <li>➤ Alzheimer's disease</li> </ul>	
12.	<p>Session 23</p> <p><b>Nervous System Disorders 3</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Mood disorders</li> <li>➤ Anxiety disorders</li> <li>➤ Eating disorders</li> <li>➤ Substance abuse</li> </ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 23 and 24:</p> <ul style="list-style-type: none"> <li>➤ Case analysis</li> <li>➤ Investigation of possible drug interactions and nutritional treatment</li> <li>➤ Development of treatment aims, goals and prescriptions</li> <li>➤ Facilitated group work</li> </ul>
	<p>Session 24</p> <p><b>Multi-System Disorders</b></p> <p>Nutritional Therapeutic Management of:</p> <ul style="list-style-type: none"> <li>➤ Fibromyalgia</li> <li>➤ Chronic Fatigue Syndrome</li> <li>➤ Cystic Fibrosis</li> </ul>	





	<ul style="list-style-type: none"><li>➤ SLE</li><li>➤ Metabolic syndromes</li></ul>	
13.	<p>Session 25</p> <p><b>Compounding Workshop 1</b></p> <ul style="list-style-type: none"><li>➤ Compounding ingredients and excipients</li><li>➤ List of ingredients</li><li>➤ Basic formulating skills</li></ul>	<p><b>Tutorial/Workshop session:</b></p> <p>Practical activities and case studies based on conditions covered in Sessions 25 and 26:</p> <ul style="list-style-type: none"><li>➤ Case analysis</li><li>➤ Investigation of possible drug interactions and nutritional treatment</li><li>➤ Development of treatment aims, goals and prescriptions</li><li>➤ Facilitated group work</li></ul>
	<p>Session 26</p> <p><b>Compounding Workshop 2</b></p> <ul style="list-style-type: none"><li>➤ Therapeutic doses and calculating formulations</li></ul>	
14-15.	<p><b>Non-Teaching Weeks / Practical Examination Weeks 1 &amp; 2</b></p> <p>Note that make-up classes may be scheduled in these weeks</p>	
16-17.	<p><b>Final Examination Weeks 1 &amp; 2</b></p> <p>There is no final exam for this subject</p>	