

# SUBJECT OUTLINE

Subject Name:

**Weight Management in Health and Disease**

Subject Code:

**NMDW221**

## SECTION 1 – GENERAL INFORMATION

<b>Award/s:</b>	<b>Total Course Credit Points:</b>	<b>Level:</b>
Bachelor of Health Science (Naturopathy)	128	Elective 4 <sup>th</sup> Year
Bachelor of Health Science (Nutritional and Dietetic Medicine)	96	Core 2 <sup>nd</sup> Year
<b>Duration:</b> 1 Semester		
<b>Subject is:</b> Core or Elective as noted	<b>Subject Credit Points:</b> 2	

### Student Workload:

<b>No. timetabled hours per week:</b> 3	<b>No. personal study hours per week:</b> 2	<b>Total hours per week:</b> 5
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### Delivery Mode\*:

On campus       Online / Digital       Blended       Intensive

### Weekly Session^ Format/s - 1 session per week:

Livestream lectures:       2 hours       3 hours      1 x 3 hour lecture per week

\*All modes are supported by the online learning management system which will include subject documents such as handouts, readings, assessment guides, and elearning support modules.

^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.

**Note:** As they are aware, international students on a Student Visa (500) must attend livestream classes on their local campus, using the Virtual Classrooms provided.

**Study Pattern:**       Full Time       Part Time

**Pre-requisites:** NMDF121, NMDM121, BIOC211

**Co-requisites:** BIOE221, BIOS222

## SECTION 2 – ACADEMIC DETAILS

### Subject Rationale

This subject addresses the complexities of managing healthy weight and the health risks associated with overweight and underweight status. Students learn to assess weight morbidity and risk factors as well as learn various strategies for weight management that incorporate lifestyle, exercise and diet. Change management through goal setting and coaching is explored to assist clients with successfully implementing dietary and lifestyle changes required to gain or lose weight.



## Learning Outcomes

1. Review client case studies with a focus on weight management outcomes.
2. Prepare client specific weight management plans including: dietary and lifestyle changes and outcome measures, using anthropometric measurement, food analysis software and biopsychosocial factors.
3. Critically analyse peer-reviewed literature pertaining to overweight/obesity and weight loss.
4. Practice applying current public health support tools.

## Assessment Tasks

Type	Learning Outcomes Assessed	Session Content Delivered	Due	Weighting
<b>Weight Management Program Case Study Part A</b> (1000 words)	1-4	1-7	Week 7	45%
<b>Weight Management Program Case Study Part B</b> (1250 words)	1-4	1-13	Week 13	55%

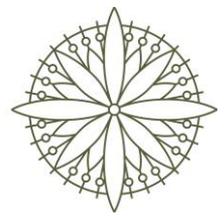
All written assessments and online quizzes are due at 11:55 p.m. Sunday and submitted through the LMS

### Prescribed Readings:

1. Baur, L. A., Twigg, S. M., & Magnusson, R. S. (Eds.). (2012). *A modern epidemic: Expert perspectives on obesity and diabetes* Sydney University Press. [open access <http://purl.library.usyd.edu.au/sup/9781920899851>]

### Recommended Readings:

1. Egger, G., & Swinburn, B. (2010). *Planet obesity: How we're eating ourselves and the planet to death*. Allen & Unwin. [ebook available]
2. Glanz, K., Rimer, B. K., & Viswanath, K. (Eds.). (2015). *Health behaviour and health education: Theory, research and practice* (5th ed.). Wiley. [ebook available]
3. Kazaks, A. G., & Stern J. S. (2013). *Nutrition and obesity, assessment management and prevention*. Jones and Barlett Learning.
4. Kopelman, P. G., Caterson, I. D., & Dietz, W. H., (Eds.). (2010). *Clinical obesity in adults and children* (3rd ed.). Wiley-Blackwell. [ebook available]
5. Sainsbury-Salis, A. (2011). *Don't go hungry for life*. Bantam Books. [ebook available]
6. Stewart, L., & Thompson, J. (Eds.). (2015). *Early years nutrition and healthy weight*. Wiley Blackwell. [ebook available]



7. Waters, E., Swinburn, B., Seidell, J., & Uauy, R. (Eds.). (2010). *Preventing childhood obesity: Evidence policy and practice*. Wiley. [ebook available]
8. Watson, R., Zuckerman, M., & Zuckerman, E. (Eds.). (2014). *Nutrition in the prevention and treatment of abdominal obesity*. Elsevier Academic Press. [ebook available]

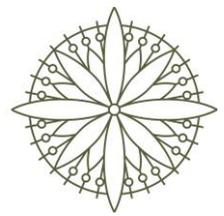
**Resources:**

1. Deakin University Faculty of Health. (2014). *WHO Collaborating Centre for Obesity Prevention* <http://www.deakin.edu.au/health/who-obesity/>
2. National Health and Medical Research Council. (2014). *Obesity and overweight*. <http://www.nhmrc.gov.au/your-health/obesity-and-overweight>
3. University of Sydney. (2014). *Charles Perkins Centre*. <http://sydney.edu.au/perkins/>

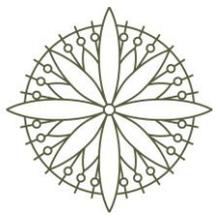
Subject Content		
Week	Lectures	Personal Study Activities
1.	<p><b>Introduction</b> (Subject Outline / Subject Aims / Assessment / Teaching Resources)</p> <p><b>Introduction to Weight Management Science</b></p> <ul style="list-style-type: none"> <li>➤ Epidemiology, definition and classification of underweight and obesity</li> <li>➤ Energy balance and body weight homeostasis</li> <li>➤ Energy requirements and expenditure</li> <li>➤ Health consequences of obesity in adults and children</li> </ul>	<p>Activities are developed to allow the students to explore relevant concepts, expand on ideas and have peer and lecturer interaction. Activities also allow for formative assessment and feedback</p> <p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive activities about obesity epidemiology (worldwide and in Australia), complemented by in-class discussions</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Calculate body mass index (BMI) and energy requirements</li> <li>➤ Identify obesity prevention strategies</li> <li>➤ Review overweight / obesity health consequences</li> </ul>
2.	<p><b>Biology of Obesity - Part 1</b></p> <ul style="list-style-type: none"> <li>➤ Genes and obesity</li> <li>➤ Metabolomics</li> <li>➤ Microbiome</li> <li>➤ Foetal and infant origins of obesity</li> </ul>	<p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive case study (pre-conception advice on weight loss)</li> <li>➤ Formative quiz on key biological concepts related to obesity</li> <li>➤ Interactive review activities</li> </ul>
3.	<p><b>Biology of Obesity - Part 2</b></p> <ul style="list-style-type: none"> <li>➤ Metabolic fuels and obesity</li> <li>➤ Adipocyte biology</li> <li>➤ Eating behaviour</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Review macronutrients' biochemistry and dietary composition (online videos)</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive case study (case analysis, treatment goals, dietary analysis, lifestyle recommendations and dietary planning)</li> </ul>



		<ul style="list-style-type: none"> <li>➤ Watch video to review hormonal regulation of hunger</li> </ul> <p><b>Extra activities:</b></p> <ul style="list-style-type: none"> <li>➤ Watch videos on detrimental health effects of sugar and the impact of excessive sugar consumption on weight gain and obesity</li> <li>➤ Watch video on saturated fats</li> </ul>
4.	<p><b>Measuring Body Composition in Adults and Children</b></p> <ul style="list-style-type: none"> <li>➤ Measurement guidelines for different ethnic groups, including Indigenous Australians</li> <li>➤ Anthropometrics</li> <li>➤ Bioelectrical Impedance Analysis (BIA)</li> <li>➤ Imaging techniques</li> <li>➤ Densitometry</li> <li>➤ Methods to assess dietary intake</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive activities about body composition</li> </ul> <p><b>Practical:</b></p> <ul style="list-style-type: none"> <li>➤ Perform anthropometric and Bio impedance assessments</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interpret a Bio impedance assessment report</li> <li>➤ Online formative activity on body composition analysis techniques</li> <li>➤ Assess and interpret body composition results</li> <li>➤ Watch Bioelectrical Impedance Analysis (BIA) videos</li> </ul>
5.	<p><b>Management of Weight Loss in Adults and Children</b></p> <ul style="list-style-type: none"> <li>➤ Five steps of evidence based practice (EBP)</li> <li>➤ Evidence appraisal</li> <li>➤ Evidence of efficacy of different weight loss diets and programs</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Online activities on dieting cycle and fad diets</li> <li>➤ Review biochemical concepts of energy use</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Case study to practice the five steps of EBP, including integration of evidence and outcome evaluation</li> <li>➤ Research other weight loss management strategies, including less restrictive approaches</li> <li>➤ Online activity on popular diets (CSIRO, DASH, Atkins, Mediterranean)</li> </ul>
6.	<p><b>Facilitating Weight Loss Programs in Groups</b></p> <ul style="list-style-type: none"> <li>➤ How to develop a weight loss program</li> <li>➤ Facilitating weight loss groups</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Visit a pharmacy or health food shop (either in person or online), identify and critically assess commercial weight loss products and programs</li> <li>➤ Interactive activity on commercial weight loss programs</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Research and develop educational tools and handouts to assist clients with weight loss</li> <li>➤ Watch video about the benefits of group weight loss programs</li> </ul>



<p>7.</p>	<p><b>Pharmacological and surgical management of obesity</b></p> <ul style="list-style-type: none"> <li>➤ Weight loss medications</li> <li>➤ Bariatric surgery</li> </ul> <p><b>Non-prescription weight loss products</b></p> <ul style="list-style-type: none"> <li>➤ Nutraceuticals for weight loss</li> <li>➤ Weight loss supplements</li> <li>➤ Herbal supplements for weight loss</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Research popular weight loss products and supplements and critically assess scientific evidence on their efficacy</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive case study (nutritional needs and dietary approaches post-obesity surgery)</li> <li>➤ Podcast on obesity, medications and surgery</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 &amp; Online students</b> – The non-teaching week falls between Weeks 7 and 8</p>		
<p>8.</p>	<p><b>Diet Strategies for Healthy Weight Gain</b></p> <ul style="list-style-type: none"> <li>➤ Macronutrient requirements and dietary approaches to promote weight gain</li> <li>➤ Supplements to promote weight gain</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Online activities: conditions and circumstances when weight gain is required</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive tutorial: develop weight gain programs for two separate cases</li> <li>➤ Interactive activities: healthy weight gain</li> </ul>
<p>9.</p>	<p><b>Mental and Emotional Factors that Influence Weight Management</b></p> <ul style="list-style-type: none"> <li>➤ Homeostatic and hedonic controls of appetite</li> <li>➤ Stress and weight gain</li> <li>➤ Sleep and weight gain</li> <li>➤ Mental health conditions related to obesity</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive activity (mental and emotional factors that influence weight management)</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive tutorial: case study on weight and mental health</li> <li>➤ Interactive activity: develop a clinical handout on strategies to reduce stress-induced emotional eating</li> </ul>
<p>10.</p>	<p><b>Social and Environmental Influences on Weight Management</b></p> <ul style="list-style-type: none"> <li>➤ Obesity stigma</li> <li>➤ Socioeconomic status and obesity</li> <li>➤ Food insecurity</li> <li>➤ Food environment</li> <li>➤ Family and peer influences</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Watch documentary on obesity stigma</li> <li>➤ Watch video on the link between poverty and obesity</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive activity (family and peer influences on eating habits)</li> <li>➤ Worksheet – investigate food and nutritional programs for clients facing economic difficulties and develop a handout containing resources</li> </ul>
<p>11.</p>	<p><b>Psychology in Weight Management</b></p> <ul style="list-style-type: none"> <li>➤ Cognitive behavioural therapy (CBT)</li> <li>➤ Motivational Interviewing</li> <li>➤ Weight loss barriers</li> </ul>	<p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Online quiz</li> </ul>



	<ul style="list-style-type: none"> <li>➤ Client centred counselling</li> <li>➤ Dealing with relapse and failure</li> </ul>	<ul style="list-style-type: none"> <li>➤ Online activity (psychological support tools for patients and referral to mental health practitioners)</li> <li>➤ Podcast on psychological effects of obesity</li> </ul>
12.	<p><b>Exercise for Weight Management</b></p> <ul style="list-style-type: none"> <li>➤ Types</li> <li>➤ Timing</li> <li>➤ Frequency and intensity</li> <li>➤ Overcoming barriers to exercise</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Online activity (physical activity statistics in Australia)</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Develop lifestyle and exercise guidelines for two different cases</li> </ul> <p><b>Extra activities:</b></p> <ul style="list-style-type: none"> <li>➤ Watch video about the benefits of exercise in cancer treatment</li> <li>➤ Watch video about high intensity interval training and weight loss</li> </ul>
13.	<p><b>Managing Complex Cases</b></p> <ul style="list-style-type: none"> <li>➤ Eating disorders</li> </ul>	<p><b>Before class:</b></p> <ul style="list-style-type: none"> <li>➤ Online activities on eating disorders</li> </ul> <p><b>After class:</b></p> <ul style="list-style-type: none"> <li>➤ Interactive tutorial on eating disorders</li> </ul>
14-15.	<p><b>Non-Teaching Week/Practical Examination Weeks 1 &amp; 2</b> Note that make-up classes may be scheduled in these weeks</p>	
16-17.	<p><b>Final Examination Weeks 1 &amp; 2</b> There is no final exam for this subject</p>	