



# MNU

WISDOM | CONFIDENCE | INTEGRITY

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## MODULE & LECTURE DESCRIPTIONS



## **Module 1 | Introduction to Evidence-Based Learning & Practice**

This module has been designed to partner with the Fundamentals of Nutrition (Module 2) to provide the underpinning knowledge and thought processes that are required to move past simple knowledge acquisition and onto wisdom and knowledge synthesis.

The term evidence-based does not mean solely relying on academic research; being an evidence-based practitioner means understanding the research and then being able to contextualise it in your practice by combining it appropriately with experience.

### **Lecture 1.1 - Welcome Lecture & Introduction to MNU**

- The underlying principles of MNU
  - Wisdom, Confidence & Integrity
- Understanding the course structure and the benefits of MNU
- Being part of an evidence-based community & the support you will receive
  - Student Support Group, The Mac-Nutrition Mentoring Lab, Help Hub, MNU tutors & the MNU team

### **Lecture 1.2 - Understanding a Truly Evidence-Based Approach**

- Defining evidence-based practice & exploring its pros and cons
- The art of critical thinking to evaluate research, experience and application
- The balance between “too” evidence-based and non-evidence-based
- Being aware of personal biases and identifying research biases

### **Lecture 1.3 - Research Methods - What Do We Really Need to Understand?**

- An introduction to scientific research – why is research important?
- Introducing research methods & the hierarchy of study design
- Understanding different methodology and how this impacts the strength of research
- An introduction to understanding basic statistics
- Limitations for research in practice
- Strategies for keeping up-to date with nutrition research

### **Lecture 1.4 - Biochemistry - Key to Understanding the Practical Elements of Nutrition**

- An introduction to biochemistry and its importance within nutrition
- Understanding how energy is created and the use of ATP within the body
- An introduction to Calories and energy balance
- The mechanisms behind regulating pH in the body
- Understanding the foundations of cell structure

### **Lecture 1.5 - What is Health & What Role Does Nutrition Play?**

- What role does nutrition support play in the six facets of health
  - A closer look at different lifestyles & dietary habits and their effect on health
  - The role of genetics in health
  - Differences between nutrigenomics and nutrigenetics
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## Module 2 | Fundamentals of Nutrition

Having a sound underpinning of physiology and biochemistry is crucial when looking to learn more advanced theory.

This module will teach you the fundamentals required to understand more advanced concepts. Similarly, it will highlight key areas of misunderstanding that may undermine future understanding. On other courses, often only the WHAT is taught, however, the information in this module will help you to understand the WHY's of future topics; this level of understanding is so important when trying to disseminate knowledge to others.

### Lecture 2.1 - Mastering the Basics of the Digestive & Endocrine Systems

- Overview of the digestive system
- An introduction to appetite hormones
- The role and function of the digestive organs and digestive enzymes
- Overview of the endocrine system
- The role of and function of the endocrine glands and hormones
- Evaluating the relationship between hormones and fat loss

### Lecture 2.2 - Understanding Energy Systems & Energy Balance

- An overview of the three energy systems
- The relevance of energy systems to nutrition clients
- An understanding of energy balance and its dynamic nature
- The core components of energy intake
  - Energy ingested vs energy absorbed
- The core components of energy expenditure
  - Basal Metabolic Rate
  - Thermic Effect of Food
  - Non-Exercise Activity Expenditure & the concept of NENAT
  - Exercise Energy Expenditure
- The crossover between energy systems and energy balance
  - Substrate utilisation, respiratory exchange ratio and changes in body composition

## **Lecture 2.3 - Nutritional Myths - Gluten, Organic, Sweeteners & Much More**

- The evolution of nutritional myths
- Common and contemporary health-related myths & misconceptions
  - Vegan & vegetarian diets
  - The impact of gluten on health and weight loss
  - Consumption of artificial sweeteners in relation to cancer risk, gut health & weight loss
  - The health effects of eating organic foods
  - The evidence behind fasted cardio for fat loss
  - Continuous blood glucose monitors and personalised nutrition in theory and practice

## **Lecture 2.4 - Is There an Optimal Diet for Human Health?**

- A critical approach to the concept of "optimal" & corrective diets
- Observing the characteristics of ancestral health & the blue zones
- The problems with modern dietary patterns and the typical Western diet
- The benefits of Calorie restriction and weight loss for health
- Non-diet approaches to improve health
- Practical considerations when eating to optimise health

## **Lecture 2.5 - The Fundamentals of Protein - Biochemistry & Metabolism**

- The chemical structure of protein
- The different types of protein and amino acids
- Protein digestion, absorption and metabolism
- The key functions of protein
- Health and performance benefits of protein
- Protein requirements for different populations
- Identifying myths relating to protein

## **Lecture 2.6 - The Fundamentals of Carbohydrate - Biochemistry & Metabolism**

- The chemical structure of carbohydrate
- The different types of carbohydrate
- Carbohydrate digestion, absorption and metabolism
- Exploring the physiological importance of carbohydrate
- Carbohydrate requirements for different populations
- Health and performance benefits of carbohydrate

## **Lecture 2.7 - The Fundamentals of Fat - Biochemistry & Metabolism**

- The chemical structure of fat
- The different types of fat
- Understanding how fat is metabolised
- The key functions of fat
- Health and performance benefits of fat
- Fat requirements for different populations
  - Guidelines vs client-specific recommendations
- Exploring the negativity around dietary fat in the media

## **Lecture 2.8 - The Role & Function of Vitamins & Minerals**

- An overview of micronutrients
- The function and requirements of various vitamins and minerals
- Understanding how micronutrient status can be measured
- Common micronutrient deficiencies
- Antioxidants - are they beneficial or detrimental to performance?
- Practical advice for clients regarding micronutrient intake
- Food vs supplementation for maintaining micronutrient status

## **Lecture 2.9 - Meal Timing & Frequency in Health & Performance**

- Goal-specific considerations for meal frequency and timing
- The effect of meal frequency on health and weight loss
- The effect of meal timing on health and weight loss
- Nutritional considerations for shift workers
- Challenging societal assumptions about breakfast consumption
- The implications of erratic eating patterns

## **Lecture 2.10 - The Fundamentals of Hydration for Health & Performance**

- The function of water in the human body
- The regulation of daily fluid balance
- Calculating sweat rates during exercise
- The factors that can affect sweat rates
- The impact of dehydration on health, weight loss and performance
- Methods of measuring hydration status
- Practical hydration strategies and the hydration beverage index



## **Module 3 | Principles of Nutrition Support & Advanced Nutritional Theory**

Module 3 builds upon the teachings in modules 1 and 2 and starts to conceptualise the theory into real life with a key focus on fat loss, muscle gain and the pursuit of optimal health.

This module will bring to life advanced concepts and techniques going into extreme detail with regards to the physiological, psychological, behavioural and social elements involved in achieving these goals. This module will allow you to become autonomous in tailoring various nutritional techniques and interventions to a wide variety of situations. The lectures will also be taught from a hugely practical standpoint allowing you to apply up-to-date theory almost immediately with yourself, and your clients.

### **Lecture 3.1 - Hormonal & Biochemical Effects of Dietary Protein**

- Evaluating methods to measure protein balance
  - Nitrogen balance vs The IAAO method
- Muscle protein synthesis, mTOR and the anabolic response
- Protein requirements for health, recovery from injury & muscle gain
- The effect of protein on appetite and satiety
- The benefit of high protein diets on muscle retention during weight loss
- The optimal source and dose of protein for muscle gain and sports performance

### **Lecture 3.2 - Hormonal & Biochemical Effects of Dietary Carbohydrate**

- Advanced carbohydrate metabolism and the insulin hypothesis
- De novo lipogenesis during carbohydrate overfeeding
- Sugar intake
  - Addiction – physiological or behavioural
  - The contribution to obesity and dietary compensation
- Hormonal effects of carbohydrate
  - Insulin, thyroid and leptin
- Periodisation of carbohydrate intake for health and performance
  - When are low carbohydrate diets useful?

### **Lecture 3.3 - Hormonal & Biochemical Effects of Dietary Fat**

- Exploring misconceptions about dietary fat
- How much and what type of fat should we be consuming?
  - Is there an optimal Omega 3: Omega 6 ratio?
- An overview of the health effects of consuming saturated fat
- The effects of dairy fat on health
- Omega 3 fish oils for health, weight loss and performance
- Ketogenic diets and when they might be useful
- The impact of the ketogenic diet on sports performance

### **Lecture 3.4 - Conceptualising Energy Balance & Macronutrient Theory**

- Estimating Basal Metabolic Rate (BMR) using predictive equations
- Using Metabolic Equivalent (METs) and Physical Activity Level (PAL) to estimate client's Daily Energy Expenditure (DEE)
  - The art of choosing an appropriate PAL
- Client-specific needs analysis for macronutrient breakdown
- Caloric and macronutrient periodisation
- Translating macronutrients to food
  - Considerations for Macro/Calorie tracking

### **Lecture 3.5 - Fat Loss Part 1 - Adherence - The Single Most Important Factor**

- Why creating a Calorie deficit is essential for fat loss
- The hierarchy of fat loss and body composition
- The reason that diets 'fail' and what to focus on for fat loss
- What do we mean by adherence?
- How to monitor adherence & reduce misreporting
- Exploring physiological and psychosocial factors that affect adherence

### **Lecture 3.6 - Fat Loss Part 2 - Client Specific & Multiphasic Approaches to Dieting**

- Dieting considerations for the compassionate practitioner
- Flexible vs rigid dieting and the concept of Unconditional Permission to Eat
- Approaches to dieting - tracking vs non-tracking
- The concepts of intuitive & mindful eating, 'clean' eating & IIFYM
- Multiphasic dieting - coaching to LIVE vs coaching to Diet



### **Lecture 3.7 - Fat Loss Part 3 - Rates of Weight Loss, Diet Breaks & Metabolic Adaptation**

- Fast vs slow rates of weight loss
- Considerations for an appropriate rate of weight loss
- Maintaining lean body mass when dieting
- Hormonal, metabolic and physical changes associated with dieting
  - Minimising adaptive thermogenesis
- The implementation of diet breaks, refeeds and reverse dieting

### **Lecture 3.8 - Evidence-Based Body Composition Assessment & Interpretation**

- Compartment models of measuring body composition
- An introduction to methods used to determine body composition
  - Skinfolds, Dual Energy X-ray Absorptiometry (DEXA), Bioelectrical Impedance (Tanita scales), Infrared, Ultrasound, Hydrostatic weighing, Air displacement Plethysmography
- The strengths and limitations of body composition methods
- The role of anthropometric measurements in practice

### **Lecture 3.9 - Advanced Muscle Gain Techniques**

- The hierarchy of nutritional factors that affect muscle hypertrophy
- Considerations for energy intake during periods of muscle gain
- Protein frequency and timing - optimal feeding strategies
  - Refractory period, leucine threshold & the anabolic window
- The role of carbohydrate and fat to optimise muscle gain
- Practical considerations for maximal muscle gain

### **Lecture 3.10 - Evidence-Based Supplementation for Health & Performance**

- An introduction to the supplement industry
- Evidence-based supplementation to benefit health
  - Vitamin D, Fish Oils and Individual Vitamin & Minerals
- Evidence-based supplementation to benefit sports performance
  - Caffeine, Creatine, Beta-Alanine, Sodium Bicarbonate



## Module 4 | Practical Nutrition Support

Theoretical knowledge of nutrition is only half of the equation when it comes to getting results in the real world with real people.

To get amazing results with every client, human behaviour and psychology also need to be carefully considered; as well as giving consideration to the method of nutrition coaching, whether that be online or face-to-face. This module has been designed to help translate the knowledge gained in modules 1-3 into practice, including every detail you need to know to successfully and confidently work with clients to get consistently amazing results. We will take you through the consultation process, choosing the most appropriate nutrition strategies, motivational interviewing techniques and unique psychological skills that can be used to maximise client adherence.

### Lecture 4.1 - Appropriate Use of Food Diaries in Practice

- The different types of food diaries
- The pros and cons of using food diaries in practice
- Considerations for under & over-reporting energy intake
- Improving the accuracy of food diaries
- Using nutritional analysis to provide client feedback
- Implementing food diaries into a service – why and when?

### Lecture 4.2 - Consultation Process - Beyond Theory & Science

- The benefits and considerations of using a pre-consultation form
- How to create a professional environment for consultations
- Key components of a successful initial consultation
- Building rapport and initiating behaviour change
- Types of questioning – getting the best information out of your client
- Using reflective practice to improve consultation skills

### **Lecture 4.3 - Approaches to Client Nutrition Strategies & Programming**

- Selecting the appropriate nutrition strategies specific to the client
- The benefits and limitations of using meal plans
- The pros and cons of 'tracking' methods
- Exploring the different types of tracking methods and when to use them
- The pros and cons of 'non-tracking' methods
- Exploring the different types of non-tracking methods and when to use them
- Reference to personality profiling

### **Lecture 4.4 - Effective Client Monitoring**

- An introduction to monitoring physical changes
  - Body weight, body composition & blood testing
- Considerations around measuring scale weight
- Using verbal techniques to monitor health factors
  - Hunger, sleep, libido, energy levels, dietary habits, hydration
- Monitoring physical activity and exercise
- The importance of client support to improve adherence and client buy-in

### **Lecture 4.5 - Theoretical & Practical Behaviour Change**

- Understanding human behaviour & the relevance of behaviour change in nutrition
- Behaviour change theories
  - The theory of planned behaviour
  - The transtheoretical model of behaviour change
  - Self-determination theory
  - Goal theory
- Motivational Interviewing – theory, principles and implementation
- Cognitive Behavioural Therapy within nutritional settings
- Supporting the formation of habits with efficacious messages and methods
- Using behaviour change theories in practice

## **Lecture 4.6 - Delivering Corporate Nutrition Programmes & Other Group Education Settings**

- Why workplace wellness is a growing market for nutritionists
- The benefits of offering a workplace wellness service
- Different types of nutrition services to offer & what to charge
- How to market your corporate nutrition service
- The importance of gaining social proof

## **Lecture 4.7 - Delivering Online Nutrition Counselling via 1-2- & Group Coaching Programmes**

- An introduction to different online models
  - The key differences between face-to-face and online nutrition counselling with 1-2-1 clients
  - Introducing the motivation implementation differential
  - How to structure a group coaching programme
    - Building on a self-determination theory foundation
  - Building and scaling your online offering
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## **Module 5 | Nutritional Considerations for Clinical Populations**

As the world's population becomes an increasingly unhealthy one, the impact that nutrition can have on some of the most prevalent health-related diseases is evident.

Module 5 will teach the pathology, symptoms and nutritional considerations of common clinical conditions that you will come across on a daily basis. In addition to the theory, this module has been designed to provide information and practical tools on evidence-based nutrition protocols and advanced approaches used in supporting clinical populations with their nutrition, all within an appropriate scope of practice. Special reference will be made to client situations when referring out is the only option a practitioner with integrity should take.

### **Lecture 5.1 - An Evidence-Based Approach to IBS & Gut Health**

- Scope of practice within the clinical area of gut health
- Understanding IBS & the potential causes & triggers
  - The influence of caffeine, alcohol, gluten & FODMAPS
  - Stress and anxiety
  - Small intestinal bacterial overgrowth (SIBO)
- Primary dietary management of IBS and alternative treatments
- Exploring a client-focused & symptom-dependent approach

### **Lecture 5.2 - Key Considerations Before, During & Post Pregnancy**

- Understanding the importance of nutrition, before, during and after pregnancy
- Foods to avoid or limit during pregnancy
- Guidance around supplements for preconception, pregnancy and post-pregnancy
- The difference between appropriate and harmful weight gain during pregnancy
- Practical tips to use with clients

### **Lecture 5.3 - Working with the Clinically Obese Population**

- An introduction to obesity and the global prevalence
  - Understanding the multifaceted disease
- The implications and health consequences of obesity
- Methods of assessment & treatment
- Dietary interventions for an obese client
- Common eating disorders in those with obesity
- An introduction to bariatrics
  - Understanding scope of practice

### **Lecture 5.4 - Nutrition Considerations for the Elderly - Maximising Quality of Life**

- Defining the ageing population and the elderly
- Nutritional considerations for sarcopenia, osteoporosis & low bone mineral density
- Practical ways to help reduce age-induced weight loss & maximise immunity
- Reducing cognitive decline & age-related diseases
- Practical recommendations for working with elderly clients

### **Lecture 5.5 - Understanding the Signs, Symptoms & Implications for Diabetes**

- Understanding what Diabetes Mellitus is
- The difference between Type 1 and Type 2 diabetes
  - Risk factors for Type 2 diabetes & current diagnosis criteria
- Clinical management of diabetes
- Management of Type 2 diabetes
  - Nutritional manipulations and macronutrient composition of diets that may support diabetes
  - The impact of weight loss & exercise
- Considerations around scope of practice

## Lecture 5.6 - Understanding the Signs, Symptoms & Implications for PCOS

- What is PCOS?
  - Understanding the prevalence, symptoms, and diagnosis
- Nutritional considerations to help improve PCOS
- The link with insulin resistance
  - Nutritional considerations for improving insulin sensitivity
- Evidence-based supplements to consider for PCOS
- Weight loss-specific considerations for PCOS clients
  - A focus on metabolism and appetite

## Lecture 5.7 - Cardiovascular Disease - Is There Really a Great Cholesterol Con?

- An introduction to CVD and possible risk factors
- An overview of blood markers and the relationship between markers and CVD risk
  - Cholesterol, Lipoproteins & Triglycerides
- Nutritional manipulations for improving blood lipid profiles and CVD risk factors
- The effect of weight loss on CVD risk
- Considerations for statin therapy
- Supporting CVD whilst remaining within scope of practice

## Lecture 5.8 - Eating Disorders - What is Our Role?

- Defining the different types of eating disorders
  - Anorexia Nervosa
  - Bulimia Nervosa
  - Binge Eating Disorder
  - ARFID, EDDM & OSFED
- Predisposing factors associated with the development of eating disorders
- The adverse health effects of semi-starvation
- Specific considerations for binge eating disorder
- Understanding your role as a practitioner and the importance of scope of practice within eating disorders



## Module 6 | Performance Nutrition Programming

Successfully working with athletes relies on knowing the most up-to-date sports nutrition research out there.

This final module aims to not only break down advanced concepts into easy-to-understand theory, but also teaches you how to implement cutting-edge, sport-specific nutrition programmes to a wide variety of disciplines. The difference in physiological demands between strength, power and endurance sports will influence the nutrition requirements that need to be taken. Therefore, the different fuelling and recovery strategies, dietary periodisation, competition protocols, and nutritional approaches to maximise training adaptations required, makes this module a fascinating and highly applied ending to MNU.

### Lecture 6.1 - Considerations for Prepping Bodybuilders

- Identifying a starting point in a bodybuilding diet
- Multi-approach dieting when leading up to a competition
- Examining the relevance of nutrient timing and frequency in bodybuilding
- Supplementation to aid bodybuilding
- 'Peak Week' strategies
- Considerations for post-competition nutrition and mental health

### Lecture 6.2 - Performance Nutrition for Endurance Athletes

- Introduction to endurance sports & nutrition hierarchy of importance
- Strategies to maximise endurance training adaptations
- An overview of energy availability and RED-S
- Carbohydrate periodisation and fat adaptation
- Optimising nutritional strategies for pre, during & post-endurance events
- Supplements to aid endurance training & competition



### **Lecture 6.3 - Performance Nutrition for Team Sports**

- Nutritional hierarchy of importance for team sports
- Specific macronutrient considerations for team sports
- Advanced nutrition strategies for concurrent training
- Acute fuelling strategies to improve performance
- Optimising recovery and maximising training adaptations
- Periodising nutrition across a competitive team sport season
- Creating supplementation protocols for training and matches

### **Lecture 6.4 - Evidence-based Strategies for Making Weight**

- Introduction to weight-making sports
  - Maximising power to weight ratio
    - Nutritional considerations for strength, power and speed
  - Acute weight-making considerations
    - Safely manipulating water, glycogen storage & diet
  - Practical post-weigh in strategies to optimise performance
-