



Course Outline (Higher Education)

School: School of Science, Psychology and Sport

Course Title: NUTRITION AND METABOLISM

Course ID: SCBCH2002

Credit Points: 15.00

Prerequisite(s): SCCHM1001

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 010901

Description of the Course :

The course begins with a general overview of nutrient uptake, metabolism and bioenergetics. This is followed by a comprehensive survey of cellular metabolism including the generation of energy from major dietary components: carbohydrate, protein and lipid; the biosynthesis of carbohydrates, lipids and nucleotides; and amino acid metabolism. The integration and control of cellular biochemistry and the role of hormones in metabolic regulation is emphasised. The importance of balanced nutrition, and the consequences of nutritional imbalance, are highlighted.

Grade Scheme: Graded (HD, D, C, etc.)

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

Knowledge:

- K1.** Identify the role of nutrients as metabolic fuels.
- K2.** Describe the processes of digestion, absorption and transport of nutrients.
- K3.** Explain the mechanisms involved in the storage and processing of metabolic fuels.
- K4.** Explain how metabolic processes are integrated and regulated.
- K5.** Discuss the metabolic pathways that operate in the fed and fasted states.

Skills:

- S1.** Analyse and interpret experimental data.
- S2.** Locate, interpret, evaluate and communicate biochemical information.

Application of knowledge and skills:

- A1.** Suggest why specific metabolic process dysfunctions, and dietary imbalances, lead to disease.
- A2.** Critically evaluate scientific and popular literature.

Course Content:

Topics may include:

- Digestion and absorption of key metabolic fuels, i.e. carbohydrates, lipids and proteins.
- Mammalian metabolism: anabolic and catabolic pathways.
- Electron transport systems and energy generation.
- Integration and regulation of metabolism; tissue specific metabolism.
- Metabolic perturbations associated with dietary imbalance.
- The role of hormones in metabolic control.

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the Higher Education Graduate Attributes Policy (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course			
		Learning Outcomes (KSA)	Code A. Direct B. Indirect N/A Not addressed	Assessment task (AT#)	Code A. Certain B. Likely C. Possible N/A Not likely
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K3, K4, S1	A, A, A	AT2	B

Graduate attribute and descriptor		Development and acquisition of GAs in the course			
		Learning Outcomes (KSA)	Code A. Direct B. Indirect N/A Not addressed	Assessment task (AT#)	Code A. Certain B. Likely C. Possible N/A Not likely
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	A1	A	AT2	C
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	Not applicable	Not applicable	Not applicable	Not applicable
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	S2	A	AT3	A
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	Not applicable	Not applicable	Not applicable	Not applicable

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1-K5	Recall and comprehension of key information	Test	40-60%
S1, S2, A1, A2, and any of K1-K5	Metabolic case studies	Written and/ or oral responses, working independently and in small groups	20-30%
S2, A1, A2, and any of K1-K5	Research and reporting on a specified topic in metabolic biochemistry	Written assignment	15-25%
S2, A1, K1 - K5	Understanding and recall of key information	Quizzes	0-15%

Adopted Reference Style:

Australian Harvard