



Course Outline (Higher Education)

School:	School of Science, Psychology and Sport
Course Title:	FOOD CHEMISTRY
Course ID:	SCCHM3003
Credit Points:	15.00
Prerequisite(s):	(SCCHM2001)
Co-requisite(s):	Nil
Exclusion(s):	(SCFST3044)
ASCED:	019905

Description of the Course:

This course focusses on the function, reactions, interactions and effect of processing on food components, primarily focussing on water, carbohydrates, proteins and lipids. There is a major focus on how food composition influences food quality. The composition and nutritional aspects of minerals in foods; stability and analysis of vitamins in food and chemistry of food toxicants and contaminants are also covered.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

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"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

Knowledge:

- K1.** Describe the role of key macro and micro-nutrients in food and their impact on food quality
- K2.** Demonstrate knowledge of the chemical processes that lead to quality deterioration in food and identify ways to minimise them
- K3.** Compare and contrast methods used for chemical analysis of food components
- K4.** Distinguish between nutritive and non-nutritive food components

Skills:

- S1.** Identify safety hazards in a laboratory setting and implement processes to minimise them
- S2.** Evaluate and select appropriate methods for determining the compositional analysis and quality of food
- S3.** Demonstrate the capacity to work effectively both individually and in teams
- S4.** Assess experimental data in terms of its compliance with regulations

Application of knowledge and skills:

- A1.** Design, plan and implement an investigation of the compositional analysis of a food product
- A2.** Critically evaluate scientific data
- A3.** Apply teamwork skills to the completion of laboratory activities

Course Content:

Food Chemistry is concerned broadly with chemical components present in food, which can have both positive and negative effects on the food. It primarily focusses on the key chemical components and how these might be altered through processing to affect food quality.

Topics may include:

- Properties and function of water in foods
- Chemistry of carbohydrates in foods: monosaccharides, disaccharides and polysaccharides
- Chemistry of proteins in foods: amino acids and polypeptides
- Chemistry of enzymes in food
- Chemistry of lipids in foods
- Composition and nutritional aspects of minerals in foods
- Stability and analysis of vitamins in food: water soluble vitamins and fat soluble vitamins
- Chemistry of food toxicants and contaminants

Graduate Attributes

The Federation University Federation 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)	Assessment task (AT#)

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		Learning Outcomes (KSA)	Assessment task (AT#)
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.	K2, S2	AT1, AT2, AT3
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	AT2
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.	S1, S4	AT2
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.	S3, A3	AT1, AT2
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.	A3	AT1, AT2

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K2, S1-S4, A2, A3	Undertake and report on laboratory practicals and complete a laboratory record book	Written reports and laboratory conduct	20-35 %
K2, K3 K4, S1-S4, A1-A3	Analytical investigation of macro- and micro-components in food (Group work)	Written report, laboratory analysis and oral presentation	30-50%
K1, K2, K4, A2	Demonstrate and apply knowledge from course content in response to case study questions	Case study assignment	15-35%

Adopted Reference Style:

Australian Harvard

 Refer to the [library website](#) for more information

 Fed Cite - [referencing tool](#)