Course Outline (Higher Education)

School: School of Science, Psychology and Sport

Course Title: APPLICATIONS IN FOOD TESTING

Course ID: SCFSS1102

Credit Points: 15.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 019905

Description of the Course:
This course gives students a practical and theoretical understanding of how analytical and biochemical food tests are performed. Students will learn basic principles of chemistry and apply them to food product development and processing to maintain product safety, quality and efficiency in food processing. Students will apply their understanding of the major chemical constituents in foods to interpret test requirements, including preparation of samples, calibration checks on analytical equipment, and performing routine testing of raw food materials, in-process materials and final products.

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

Work Experience:

No work experience: Student is not undertaking work experience in industry.

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			✔			
Intermediate						
Advanced						

Learning Outcomes:

Knowledge:

K1. Explain basic principles of chemistry and how they relate to food testing

K2. Describe the molecular structure and properties of the major biochemical constituents of foods, including carbohydrates, proteins and lipids

K3. Discuss the nutritional value of major food groups, and how to analyse these

K4. Explain the theory of biochemical tests used in the analysis of foods

K5. Describe how instruments used in food analysis operate and their appropriate application

K6. Identify how processes involved in food preservation and storage impact on the biochemical properties of food

Skills:

S1. Demonstrate the operation of analytical instruments, including spectrometric instruments

S2. Apply biochemical tests to identify and quantitate chemical components of food

S3. Compile methodologies for obtaining representative food samples for biochemical analysis

S4. Interpret the results of biochemical tests and describe their implications for food processing

Application of knowledge and skills:

A1. Apply theoretical and practical knowledge to analyse biochemical composition of food samples

A2. Interpret results of analytical tests to inform decisions on food products

Course Content:

Topics may include:

- Biochemistry of foods
- Food sampling protocols
- Biochemical testing of food
- Analytical equipment used in food testing
- Effects of processing of biochemistry of food

Values:

V1. Recognise the important role that chemical testing of food plays in ensuring a safe and nutritious food supply

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#)
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.	K1 - K6, S4, A2	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.	Not applicable	Not applicable
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
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.	S4, A2	AT2, AT3
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

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1 - K6	Demonstrate knowledge, skills, and their application to food science	Online quizzes	15 - 30%
K1, K4, K5, S1 - S4, A1, A2	Laboratory practical report	Written report	30 - 50%
K1 - K5, S1, S2, S4, A1, A2	Comparison of two analytcal techniques for quantitating level of a specific compound in food	Presentation	30 - 50%

Adopted Reference Style:

Australian Harvard

Refer to the library website for more information

Fed Cite - referencing tool