

Course Outline (Higher Education)

School: School of Health and Life Sciences

Course Title: PROCESS TECHNOLOGIES

Course ID: SCBRW5085

Credit Points: 15.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED Code: 030307

Description of the Course :

This course will present a broad overview of the engineering principles of the brewing process. It will include the theory and practice of processes such as: the behaviour of gasses; fluids and fluid handling; and heat and energy transfer. This course also includes an overview of process control devices and sensors associated with the brewing industry.

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

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:

AQF Level of Program						
	5	6	7	8	9	10
Level						
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.** Define the basic principles and equations relating to fluid flow, mass and heat transfer.
- K2.** Compare and contrast the uses and advantages of a range of pumps and valves.

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K3. Describe the basic principles of process control applied to the brewing industry.

K4. Describe materials of construction, including corrosion and insulation.

Skills:

S1. Calculate common brewery fluid flow and heat transfer equations.

S2. Access and assess technical data relevant to the brewing process (e.g. pump curves).

Application of knowledge and skills:

A1. Evaluate a range of pumps and valves for their suitability for the required use.

A2. Design basic aspects of a brewery using correct materials of construction.

Course Content:

The following material will be normally presented during this course.

Topics may include:

- Heat and heat transfer.
- Refrigeration.
- Fluids and fluid flow.
- Pipes, valves, and pumps.
- Introduction of principles of process control.
- Materials of construction - ferrous metals / non-ferrous metals, plastics, corrosion.
- Process gases.

Values:

V1. To develop a responsible attitude to the production and consumption of alcoholic beverages.

V2. To develop an awareness of the differences in cultural beliefs about alcoholic beverages.

Graduate Attributes:

FedUni graduate attributes statement. To have graduates with knowledge, skills and competence that enable them to stand out as critical, creative and enquiring learners who are capable, flexible and work ready, and responsible, ethical and engaged citizens.

Attribute	Brief Description	Focus
Knowledge, skills and competence	Skills to find and interpret information independently.	Medium
Critical, creative and enquiring learners	Independent learning.	High
Capable, flexible and work ready	The role of alcoholic beverages in society.	Low
Responsible, ethical and engaged citizens	Safety in the working environment.	Medium

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1-K4, S1, S2, A1, A2	Tutorial questions - short answers to technical questions / calculations covering a range of aspects of brewery engineering.	Tutorial questions.	20-40%

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Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
S1, S2, A1, A2 and any of K1-K4	Case study - an assignment addressing a specific aspect of engineering process control.	Assignment.	20-40%
K1-K4	On-line multiple choice tests.	On-line tests.	20%
K1-K3, S1, A1	Written practical reports including planning, data collection and interpretation.	Practical / workshop reports. Workshop attendance.	20% / S/U

Adopted Reference Style:

Australian