



# Unit Outline (Higher Education)

**Institute / School:** Institute of Innovation, Science & Sustainability

**Unit Title:** Downstream Processing

**Unit ID:** SCBRW5086

**Credit Points:** 15.00

**Prerequisite(s):** Nil

**Co-requisite(s):** Nil

**Exclusion(s):** (SF487)

**ASCED:** 030307

**Description of the Unit:**

This unit will present a broad overview of the downstream processes that occur after fermentation and the scientific principles behind them. It will include the theory and practice of processes such as: clarification, sedimentation and filtration; carbonation, principles and processes of biological stabilisation; and filtration.

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

**Work Experience:**

No work experience

**Placement Component:** No

**Supplementary Assessment:** Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

**Course Level:**

Level of Unit in Course	AQF Level of Course					
	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 checked="" 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.** Compare and contrast the principles and processes of clarification - sedimentation, centrifugation, filtration.
- K2.** Compare and contrast the principles and practises of biological stabilisation - flash pasteurisation, tunnel pasteurisation, sterile filtration.
- K3.** Describe methods of carbonation and calculate carbonation levels.
- K4.** Compare and contrast appropriate analyses and specifications to assess beer quality.

**Skills:**

- S1.** Analyse beer attributes.
- S2.** Effectively and efficiently access information relevant to brewing.

**Application of knowledge and skills:**

- A1.** Formulate and evaluate beer specification sheets.
- A2.** Critically evaluate scientific data.

**Unit Content:**

This unit will describe the downstream processes that occur after fermentation and the science behind them. It will include the processes of:

Topics may include:

- Flavour Maturation.
- Clarification.
- Sedimentation.
- Quality Adjustment and Control.
- Filtration.
- Non Biological Stabilisation.
- Biological Stabilisation.
- Carbonation.

**Learning Task and Assessment:**

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1-K4, S1-S2, A2	Tutorial questions - short answers to technical questions covering all aspects of downstream processing.	Tutorial questions.	30-50%
S1-S2, A1-A2 and any of K1-K4	Case study - an assignment requiring analysis of beer specifications and / or development of appropriate data / protocols.	Assignment.	20-40%
K1, K2, K3, K4, A2	On-line multiple choice tests.	On-line tests.	20-30%

**Adopted Reference Style:**

Australian Harvard

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

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