B907-BRD Bachelor of Science in Brewing and Distilling

PROGRAMME DETAILS
Programme Code: B907-BRD
Department: Bioscience
Main Award: BSCH - Bachelor of Science Honours
Full Award Title: Bachelor of Science in Brewing and Distilling
Level: Undergraduate

LOCATION OF STUDY

<table>
<thead>
<tr>
<th>Location</th>
<th>Edinburgh</th>
<th>Scottish Borders</th>
<th>N</th>
<th>Orkney</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubai</td>
<td>N</td>
<td>Malaysia</td>
<td>N</td>
<td>Approved Learning Partner</td>
<td>N</td>
</tr>
<tr>
<td>Independent Distance Learners</td>
<td>N</td>
<td>Collaborative Learning Partner</td>
<td>N</td>
<td>Other</td>
<td>N</td>
</tr>
</tbody>
</table>

ASSOCIATED AWARDS

<table>
<thead>
<tr>
<th>Programme Code</th>
<th>Award</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>B907-BRD</td>
<td>BSCH</td>
<td>Bachelor of Science in Brewing and Distilling</td>
</tr>
<tr>
<td>B907-ZZZ</td>
<td>BSCO</td>
<td>Bachelor of Science in Brewing and Distilling</td>
</tr>
</tbody>
</table>

ACCREDITATION

Institute of Brewing and Distilling (IBD) offer Honours graduates the opportunity for exemption from the Diploma in Brewing or Diploma in Distilling should they later in their career wish to undertake the Master Brewer or Master Distiller qualification through the IBD.

LEARNING OUTCOMES – SUBJECT MASTERY

Understanding, Knowledge and Cognitive Skills

Students will be expected to have:

- Developed a detailed knowledge and understanding of the fundamental subjects and topics which are essential in gaining the broad spectrum of expertise required for malting, brewing and distilling, including but not limited to: cereal science and technology, yeast science, microbiology, biochemistry, process technology, business studies, management, food safety, quality control and quality assurance, flavour assessment and analytical chemistry.
- Developed a sound understanding and knowledge of policy, legislation, ethical, health and safety issues of concern as they relate to the design, manufacture, marketing and sale of alcoholic drinks and for the raw materials, processing aids, by-products and wastes of the industry.

Scholarship, Enquiry and Research (Research Informed Learning)

- Manage data and information efficiently and effectively.
- Use a range of techniques for work presentation: written, word processed, spreadsheets, presentation packages.
- Take responsibility for their learning and become more independent as learners.
- Work effectively alone and as part of a team.
- Carry out a detailed literature survey and be competent and expert at collecting, organising and presenting information from www, library, journals, books.
- Make critical judgement and evaluations.
- Perform efficiently the process operations of malting, brewing and distilling at the pilot scale, including the planning of recipes, quantities, process parameters.
LEARNING OUTCOMES – PERSONAL ABILITIES

Industrial, Commercial and Professional Practice

• Students are strongly encouraged to undertake an industrial placement between Level 3 and Level 4.
• Adopt a mature and professional attitude and aptitudes, linked to professional aspirations.

Autonomy, Accountability and Working With Others

• Take responsibility for personal and professional development
• Effective working and time management both as an individual and part of a group

Communication, Numeracy & Information and Communications Technology

• Effective communication, both written and oral, at all levels
• Development of critical analytical, numerical and IT skills, both general and subject-specific

APPROACHES TO TEACHING AND LEARNING

• The overall approach in the course to teaching and learning is a student-centred one, which is designed to encourage students to take increasing responsibility for their own learning and development as the programme progresses.
• The requisite competencies in this programme are developed through lectures, tutorials, coursework (assignments, individual projects, group projects, essays, reports, presentations, posters and dissertation) self-study, a business project and the research project. The laboratory based practical components of the programme (structured classes and research project), the work in the pilot plants, the industrial visits and placement serve to reinforce the development of subject-specific skills. The practical component of the programme, working in the pilot maltings, brewery and distillery reinforces the theory and promotes group working as a member of a small team.
• Personal abilities are developed throughout the programme by small-group interactions, project work and seminars.
• Approaches to teaching and learning are reviewed annually and developed appropriately in response to feedback from students, staff, external examiners and examination results etc.
• Specific details relating to teaching and learning are provided in the relevant course descriptors.

EDUCATIONAL AIMS OF THE PROGRAMME

The programme aims to:

• Equip students with a sound basis in fundamental scientific and technological principles and their application in the context of malting, brewing and distilling, and, on graduation, to have the breadth and depth of knowledge in the subjects required by the industry.
• Develop knowledge and understanding of business and management.
• Learn the underlying principles, relevant defining concepts, theories and methods, the current state of knowledge and future development possibilities of the industries.
• Grasp the global, regional and local contexts of malting, brewing and distilling.
• Understand the structure of the malting, brewing and distilling industries and to be aware of the political, legal, ethical, health and safety issues in producing, selling and marketing alcoholic drinks.
• Understand the implications that some alcoholic drinks are defined as "food".
• Enable students to develop their personal abilities, such as team working, communication, time management,
prioritisation, job seeking, interview techniques.

ASSESSMENT POLICIES

The assessment policy for the programme incorporates a range of assessment types. Formative tests and other assignments are scheduled to provide feedback on performance and are used to inform further development. Coursework (continuous assessment) during courses and summative assessment at the conclusion of courses both contribute to the overall assessment and are used to measure the achievement in specified learning outcomes.

Understanding, knowledge and subject-specific skills are assessed through a variety of means such as essays, multiple choice tests, laboratory exercises, written examinations, oral presentations, group and individual projects and dissertation.

Specific details relating to methods of assessment are provided in the relevant course descriptors.

PROGRAMME STRUCTURE

Mandatory Courses

<table>
<thead>
<tr>
<th>Edinburgh</th>
<th>SBC</th>
<th>Orkney</th>
<th>Dubai</th>
<th>HWUM</th>
<th>IDL</th>
<th>Coll. Partner</th>
<th>ALP</th>
<th>Cours e Code</th>
<th>CourseTitle</th>
<th>SCQF Cr</th>
<th>SCQF Lvl</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A17IB</td>
<td>Introductory Biology 1</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A17PS</td>
<td>Practical Skills in Biology</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A17SS</td>
<td>Induction and Study Skills in Biology</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B47AA</td>
<td>Process Industries A</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A17BP</td>
<td>Biology Practical</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A17IO</td>
<td>Introductory Biology 2</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B17LS</td>
<td>Chemistry for the Life Sciences</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B47AB</td>
<td>Process Industries B</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A18RB</td>
<td>Research Methods in Biology</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A18XP</td>
<td>Science and Exploitation of Plants</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B98EA</td>
<td>Bioprocess Engineering for Brewing and Distilling A</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C17EB</td>
<td>Management in a Global Context</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A18IM</td>
<td>Introduction to Microbiology</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A18MC</td>
<td>Cell and Molecular Biology</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B98EB</td>
<td>Bioprocess Engineering for Brewing and Distilling B</td>
<td>15</td>
<td>8</td>
</tr>
</tbody>
</table>
### Optional Courses

<table>
<thead>
<tr>
<th>Edinburgh</th>
<th>SBC</th>
<th>Orkney</th>
<th>Dubai</th>
<th>HWUM</th>
<th>IDL</th>
<th>Coll. Partner</th>
<th>Other</th>
<th>Stage</th>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>SCQF Cr</th>
<th>SCQF Lvl</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 1 A19FX</td>
<td>Introduction to Food Microbiology</td>
<td>15 9</td>
<td>15 9</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 1 A19MO</td>
<td>Molecular biology</td>
<td>15 9</td>
<td>15 9</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 2 A19BT</td>
<td>Biotechnology</td>
<td>15 9</td>
<td>15 9</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 2 B49CG</td>
<td>Process Design B</td>
<td>15 9</td>
<td>15 9</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 2 C17EC</td>
<td>Enterprise and its Business Environment</td>
<td>15 7</td>
<td>15 7</td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 2 C18OP</td>
<td>Operations Management</td>
<td>15 8</td>
<td>15 8</td>
</tr>
</tbody>
</table>

### ELECTIVES (UG)

- **Stage 1**: N/A
- **Stage 2**: N/A
- **Stage 3**: N/A
- **Stage 4**: N/A
- **Stage 5**: N/A

### COMPOSITION AND STAGE NOTES (UG)
### B907-BRD Bachelor of Science in Brewing and Distilling

<table>
<thead>
<tr>
<th>Stage</th>
<th>8 mandatory, all mandatory courses are at SCQF level 7.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Mandatory Credits 1</strong> 120</td>
</tr>
<tr>
<td></td>
<td><strong>Optional Credits 1</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Elective Credits 1</strong> 120</td>
</tr>
<tr>
<td><strong>Total 1</strong></td>
<td>120</td>
</tr>
</tbody>
</table>

### Stage 2

<table>
<thead>
<tr>
<th>8 mandatory</th>
</tr>
</thead>
</table>

|       | **Mandatory Credits 2** 120                          |
|       | **Optional Credits 2**                                 |
|       | **Elective Credits 2** 120                             |
| **Total 2** | 120                                           |

### Stage 3

<table>
<thead>
<tr>
<th>5 mandatory, 3 optional</th>
</tr>
</thead>
</table>

- Students who wish to take a biology orientated pathway are advised to choose A19MO AND A19BT as **two** of their options.
- Students who wish to take a more engineering orientated pathway are advised to choose B49CG as one of their options.

|       | **Mandatory Credits 3** 75                           |
|       | **Optional Credits 3** 45                             |
|       | **Elective Credits 3**                                 |
| **Total 3** | 120                                           |

### Stage 4

<table>
<thead>
<tr>
<th>8 mandatory</th>
</tr>
</thead>
</table>

|       | **Mandatory Credits 4** 120                          |
|       | **Optional Credits 4**                                 |
|       | **Elective Credits 4** 120                             |
| **Total 4** | 120                                           |

### Stage 5

|       | **Mandatory Credits 5**                                 |
|       | **Optional Credits 5**                                  |
|       | **Elective Credits 5** 0                                |
| **Total 5** | 0                                               |

### ASSESSMENT AND PROGRESSION (UG)

#### Reassessment Opportunities

1. A student who has been awarded a Grade E or a Grade F in a course may be re-assessed in that course.
2. A student shall be permitted only one re-assessment opportunity to be taken at the Resit diet of examination following the first assessment of the course.
3. A student shall not be re-assessed in any qualifying course taken in the final stage of a course of study.
4. The Progression Board may permit a student to be re-assessed in any qualifying course not taken in the final stage in order
to gain credits for the course, provided that the mark or grade obtained in the first assessment of any such course is used in determining the classification of the degree to be awarded.

### Progression Requirements

**Part A.** The minimum number of credits required to progress through each stage are as follows

<table>
<thead>
<tr>
<th>Stage</th>
<th>Credits Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 2</td>
<td>120 SCQF credits</td>
</tr>
<tr>
<td>2 to 3</td>
<td>240 SCQF credits</td>
</tr>
<tr>
<td>3 to 4</td>
<td>360 SCQF credits</td>
</tr>
<tr>
<td>4 to 5</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Part B.** The minimum grade of D is required in the following courses

<table>
<thead>
<tr>
<th>Stage</th>
<th>Minimum of six courses must be passed at grade D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### AWARDS, CREDITS AND LEVEL (UG)

#### Part A. Credit Requirements

<table>
<thead>
<tr>
<th></th>
<th>Overall Credits</th>
<th>Specific Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated Masters</strong></td>
<td>600</td>
<td>600 SCQF credits including a minimum of 120 credit at Level 11</td>
</tr>
<tr>
<td><strong>Honours Degree (inc.MA)</strong></td>
<td>480</td>
<td>480 SCQF credits including a minimum of 180 credit at Level 9 and 10 of which at least 90 credits at Level 10</td>
</tr>
<tr>
<td><strong>Ordinary or General Degree</strong></td>
<td>360</td>
<td>360 SCQF credits including a minimum of 60 credit at Level 9</td>
</tr>
<tr>
<td><strong>Diploma of Higher Education</strong></td>
<td>240</td>
<td>240 SCQF credits including a minimum of 90 credit at Level 8</td>
</tr>
<tr>
<td><strong>Certificate of Higher Education</strong></td>
<td>120</td>
<td>120 SCQF credits including a minimum of 90 credit at Level 7</td>
</tr>
</tbody>
</table>

#### Part B. Mark/Grade Requirements

<table>
<thead>
<tr>
<th></th>
<th>Overall Mark</th>
<th>Overall Grade</th>
<th>Basis of Overall Mark/Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated Masters</strong></td>
<td>&gt;=50%</td>
<td>C</td>
<td>Credit Weighted Average &gt;=50% over all qualifying courses at Grades A-D</td>
</tr>
<tr>
<td><strong>Honours Degree (inc.MA)</strong></td>
<td>&gt;=40%</td>
<td>D</td>
<td>1st: Credit Weighted Average &gt;=70% Over all qualifying courses at grades A-D. 2.1: Credit Weighted Average &gt;=60% Over all qualifying courses at grades A-D. 2.2: Credit Weighted Average &gt;=50% Over all qualifying courses at grades A-D. 3rd: Credit Weighted Average &gt;=40% Over all qualifying courses at grades A-D.</td>
</tr>
<tr>
<td><strong>Ordinary or General Degree</strong></td>
<td>&gt;=40%</td>
<td>D</td>
<td>Minimum of grade D in all pre-requisite courses.</td>
</tr>
<tr>
<td><strong>Diploma of Higher Education</strong></td>
<td>&gt;=40%</td>
<td>D</td>
<td>Minimum of grade D in all pre-requisite courses.</td>
</tr>
<tr>
<td><strong>Certificate of Higher Education</strong></td>
<td>&gt;=40%</td>
<td>D</td>
<td>Minimum of grade D in all pre-requisite courses.</td>
</tr>
</tbody>
</table>

### DURATION OF STUDY

<table>
<thead>
<tr>
<th></th>
<th>Full-time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated Masters</strong></td>
<td>60</td>
</tr>
<tr>
<td><strong>Honours Degree</strong></td>
<td>48</td>
</tr>
<tr>
<td><strong>Ordinary or General Degree</strong></td>
<td>36</td>
</tr>
<tr>
<td><strong>Diploma of Higher Education</strong></td>
<td>24</td>
</tr>
<tr>
<td><strong>Certificate of Higher Education</strong></td>
<td>12</td>
</tr>
</tbody>
</table>