1. Programme Code(s) (recruitment & exit awards)
F723-ACS

2. Programme Titles for all awards (unabbreviated)
BSc (Hons) Actuarial Science

3. Main Award(s) to be recruited to
BSc (Hons) Actuarial Science

4. Exit Awards (graduation only)
Ordinary, Diploma HE, Certificate HE

5. Date of Production
03 March 2016

6. MANDATORY COURSES

<table>
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<tr>
<th>Edinburgh/</th>
<th>HWUM</th>
<th>Dubai</th>
<th>ALP</th>
<th>IDL</th>
<th>Collaborative</th>
<th>Stage</th>
<th>Semester</th>
<th>Phase (Part-time)</th>
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<td></td>
<td></td>
<td></td>
<td>Course Title</td>
</tr>
</tbody>
</table>
|            |      |       |     |     |               |       |           |                  | Credit Value | SCQF | MQA | SCQFL

| STAGE 1    |       |       |     |     |               |       |           |                  |          |      |     |
| V          |       |       |     |     |               |       |           |                  | F17CA    | 15   | 7   |
| V          |       |       |     |     |               |       |           |                  | Introduction to University Mathematics | 15 | 7 |
| V          |       |       |     |     |               |       |           |                  | F77SA    | 15   | 7   |
| V          |       |       |     |     |               |       |           |                  | F17CB    | 15   | 7   |
| V          |       |       |     |     |               |       |           |                  | F77SB    | 15   | 7   |
| V          |       |       |     |     |               |       |           |                  | Professional Development Planning       | 15 | 7 |

| STAGE 2    |       |       |     |     |               |       |           |                  |          |      |     |
| √ V        |       |       |     |     |               |       |           |                  | F18CD    | 15   | 3.75 | 8   |
| √ V        |       |       |     |     |               |       |           |                  | Linear Algebra                          | 15 | 3.75 | 8 |
| √ V        |       |       |     |     |               |       |           |                  | F78AA    | 15   | 3.75 | 8   |
| √ V        |       |       |     |     |               |       |           |                  | F78PA    | 15   | 3.75 | 8   |
| √ V        |       |       |     |     |               |       |           |                  | Probability and Statistics B            | 15 | 3.75 | 8 |

| STAGE 3    |       |       |     |     |               |       |           |                  |          |      |     |
| No mandatory courses common to all students: see Section 9. |

| STAGE 4    |       |       |     |     |               |       |           |                  |          |      |     |
| No mandatory courses common to all students: see Section 9. |
### 7. OPTIONAL COURSES

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>New Course</th>
<th>SCQF Credits</th>
<th>SCQF Level</th>
<th>Notes</th>
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<tr>
<td>√</td>
<td>1 1  C27OA Introductory Economics</td>
<td>15</td>
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<td>√</td>
<td>1 2  C37FF Finance and Financial Reporting</td>
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<td>3.75</td>
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<tr>
<td>V</td>
<td>2 2  C37FF Finance and Financial Reporting</td>
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<td>7</td>
<td>Only for Direct Entrants To Stage 2.</td>
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<tr>
<td>V</td>
<td>2 2  F18NA Numerical Analysis A</td>
<td>15</td>
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<td>V</td>
<td>3 1  F79MA Statistical Models A</td>
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<td>3.75</td>
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<td>Except for Waterloo Exchange students.</td>
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<tr>
<td>V</td>
<td>3 1  F79SP Stochastic Processes</td>
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<td>3.75</td>
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<td>V</td>
<td>3 1  F79PA Portfolio Theory and Asset Models</td>
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<tr>
<td>V</td>
<td>3 1  F70LA Life Insurance Mathematics A</td>
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<tr>
<td>V</td>
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<td>Except for Melbourne and Waterloo Exchange students.</td>
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<tr>
<td>V</td>
<td>3 2  F79SU Survival Models</td>
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<td>3.75</td>
<td>9</td>
<td>Except for Melbourne and Waterloo Exchange students.</td>
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<tr>
<td>V</td>
<td>3 2  F79DF Derivative Markets and Discrete-time Finance</td>
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<td>3.75</td>
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<td>Except for Melbourne and Waterloo Exchange students.</td>
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<td>V</td>
<td>3 2  F70LB Life Insurance Mathematics B</td>
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<tr>
<td>V</td>
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<td>30</td>
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<td>V</td>
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<td>30</td>
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<td>V</td>
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<td>9</td>
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<tr>
<td>V</td>
<td>4 1  F79PS Statistics for Social Science</td>
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<td>Except for Melbourne Exchange students.</td>
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<tr>
<td>V</td>
<td>4 1  F70PE Pensions</td>
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<td>3.75</td>
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<td>Except for Melbourne Exchange students.</td>
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<tr>
<td>V</td>
<td>4 1  F70CF Continuous-time Finance</td>
<td>15</td>
<td>3.75</td>
<td>10</td>
<td>Except for Melbourne and Waterloo Exchange students.</td>
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<tr>
<td>V</td>
<td>4 1  F10MM Optimisation</td>
<td>15</td>
<td>3.75</td>
<td>10</td>
<td>Except for Melbourne Exchange students.</td>
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<tr>
<td>V</td>
<td>4 1  F70SC Statistical Computing</td>
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<td>3.75</td>
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<td>Except for Melbourne Exchange students.</td>
</tr>
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<td>1. Programme Code(s) (recruitment &amp; exit awards)</td>
<td>2. Programme Titles for all awards (unabbreviated)</td>
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<tr>
<td>F723-ACS</td>
<td>BSc (Hons) Actuarial Science</td>
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</table>

| 3. Main Award(s) (to be recruited to)          | 4. Exit Awards (graduation only)                 |
| BSc (Hons) Actuarial Science                   | Ordinary, Diploma HE, Certificate HE             |

<table>
<thead>
<tr>
<th>5. Date of Production</th>
</tr>
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<td>03 March 2016</td>
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### Course List

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>ECTS</th>
<th>Notes</th>
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<tr>
<td>F71RM</td>
<td>Financial Risk Management</td>
<td>15</td>
<td>3.75</td>
<td></td>
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<tr>
<td>F71AB</td>
<td>Financial Mathematics</td>
<td>15</td>
<td>3.75</td>
<td></td>
</tr>
<tr>
<td>F79PA</td>
<td>Portfolio Theory and Asset Models</td>
<td>15</td>
<td>9</td>
<td></td>
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<tr>
<td>F70ML</td>
<td>Year Abroad – Melbourne B</td>
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<td>10</td>
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<tr>
<td>F79BI</td>
<td>Bayesian Inference &amp; Computational Methods</td>
<td>15</td>
<td>3.75</td>
<td>9</td>
</tr>
<tr>
<td>F70RT</td>
<td>Risk Theory</td>
<td>15</td>
<td>3.75</td>
<td>10</td>
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<td>F70TS</td>
<td>Time Series Analysis</td>
<td>15</td>
<td>3.75</td>
<td>10</td>
</tr>
<tr>
<td>F70LP</td>
<td>Life Office Practice</td>
<td>15</td>
<td>3.75</td>
<td>10</td>
</tr>
<tr>
<td>F71AJ</td>
<td>Financial Economics 2</td>
<td>15</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

### 8. ELECTIVES

**Stage 1:** Any SCQF Level 7 course, which must be approved by the 1st year Director of Studies.

**Stage 2:** None

**Stage 3:** None

**Stage 4:**

**a. Edinburgh campus**

**Semester 1**

Students can choose at most one of:
- C270A Introductory Economics (SCQF level 7) – HWU (15 credits). This is offered to Direct Entrants into Stage 2 or Stage 3 at HWU to allow them to obtain the CT7 exemption.
- Any course approved by the 4th Year Director of Studies.

**Semester 2**

Students can choose at most one of:
- C37FF Finance and Financial Reporting (SCQF level 7) – HWU (15 credits). This is offered to Direct Entrants into Stage 3 at HWU to obtain the CT2 exemption.
- F19MO Ordinary Differential Equations (SCQF level 9) – HWU (15 credits).
- C39TA Taxation (Tax Law) (SCQF level 9) – HWU (15 credits).
- Any course approved by the 4th Year Director of Studies.

**b. Malaysia campus**

**Semester 1**

Students can choose at most one of:
- C270A Introductory Economics (SCQF level 7) – HWUM (3.75 credits). This is offered to all HWUM students to allow them to obtain the CT7 exemption.
- Any course approved by the 4th Year Director of Studies.

**Semester 2**

Students can choose at most one of:
- F19MO Ordinary Differential Equations (SCQF level 9) – HWUM (3.75 credits).
- Any course approved by the 4th Year Director of Studies.
# Programme Notes

**9. COMPOSITION & STAGE NOTES e.g. xx taught Courses (xx mandatory & xx optional)**

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>8 taught courses (6 mandatory &amp; 2 optional or elective)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students wishing to choose an elective course in either Semester 1 or Semester 2 must have the elective course approved by the 1st year Director of Studies.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage 2</th>
<th>8 taught courses (7 mandatory and 1 optional).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct entrants to Stage 2: Direct entrants into Stage 2 may take C37FF Finance and Financial Reporting as an optional course at Stage 2 for CT2 exemption.</td>
</tr>
</tbody>
</table>

**Exchange programmes for students on the Edinburgh campus (HWU)**

Students at the Edinburgh campus (HWU) who are performing well on the programme can be selected to participate in an established exchange programme with either University of Melbourne, Australia, or University of Waterloo, Canada. The selection process normally takes place during Semester 2 of Stage 2.

An outline of each of the exchange programmes is given below.

**Outline of the Melbourne Exchange Programme**

1. Students on spend Semester 2 of Stage 3 and Semester 1 of Stage 4 at the University of Melbourne, Australia. They return to Heriot-Watt at the beginning of Semester 2 of Stage 4 and complete their final year of study at Heriot-Watt.
2. The programme of study for Heriot-Watt students in Melbourne is broadly equivalent in content and SCQF level to half of Stage 3 and half of Stage 4 on the BSc (Hons) Actuarial Science.
3. The programme of study in Melbourne has been designed to ensure that Heriot-Watt students cover material that is required by the Institute and Faculty of Actuaries for exemption from the latter’s Core Technical examinations.
4. Upon successful completion of their course of study in Melbourne, students are awarded 120 credits (60 credits are awarded for each of the two semesters that the students spend in Melbourne).
5. In order to complete the UK Core Technical professional syllabus, returning Heriot-Watt students may take course F71AJ Financial Economics 2 in Semester 2 of Stage 4.

**Outline of the Waterloo Exchange Programme**

1. Students on this exchange spend all of Stage 3 at the University of Waterloo, Canada. They complete Stage 4 at Heriot-Watt.
2. The programme of study for Heriot-Watt students in Waterloo is broadly equivalent in terms of content and SCQF Level to Stage 3 of the BSc (Hons) Actuarial Science. It includes the equivalent of 30 credits of research-informed independent work.
3. The programme of study in Waterloo has been designed to ensure that Heriot-Watt students cover material that is required by the Institute and Faculty of Actuaries for exemption from the profession’s Core Technical examinations.
4. Upon successful completion of their study in Waterloo, students are awarded 120 credits for Stage 3 of the programme.
5. Students must complete 4 courses at SCQF Level 10 or above in Stage 4.

**Note:**

In Stage 1 and Stage 2, the course choices are identical for all students on the programme.
Stage 3:

From Stage 3 onwards, there are four main pathways in the programme, namely:

a. **Edinburgh campus**: study at the Edinburgh campus (HWU) only,

b. **Malaysia campus**: study at the Malaysia campus (HWUM) only,

c. **Melbourne exchange programme**: study at the Edinburgh campus (HWU) with one year exchange at Melbourne University,

d. **Waterloo exchange programme**: study at the Edinburgh campus (HWU) with one year exchange at University of Waterloo.

There are no mandatory courses common to all pathways. To follow a particular pathway requires a specified combination of optional courses. Thus within each pathway there are mandatory courses. These mandatory courses are specified for each pathway in this section from Stage 3 onwards.

**a. Edinburgh campus**

8 taught courses (8 mandatory).

**Semester 1**
The 4 mandatory courses are:
- F79MA Statistical Models A,
- F79SP Stochastic Processes,
- F79PA Portfolio Theory and Asset Models,
- F70LA Life Insurance Mathematics A.

**Semester 2**
The 4 mandatory courses are:
- F79MB Statistical Models B,
- F79SU Survival Models,
- F79DF Derivative Markets and Discrete-time Finance,
- F70LB Life Insurance Mathematics B.

**b. Malaysia campus**

As for the Edinburgh campus.

**c. Melbourne Exchange Programme**

5 taught courses (5 mandatory, of which one is a 60-credit course).

**Semester 1**
The 4 mandatory courses are the same as Semester 1 of Stage 3 for the Edinburgh campus.

**Semester 2**
The 1 mandatory course is
- F79ML Year Abroad – Melbourne A.

**d. Waterloo Exchange Programme**

3 taught courses (1 mandatory 60-credit course at SCQF Level 9, 1 mandatory 30-credit course at SCQF Level 9 and 1 mandatory 30-credit course at SCQF Level 10).

**Semester 1**
The 1 mandatory course is
- F79WA Year Abroad – Waterloo A.

**Semester 2**
The 2 mandatory courses are
- F79WB Year Abroad – Waterloo B1, and
<table>
<thead>
<tr>
<th>1. Programme Code(s) (recruitment &amp; exit awards)</th>
<th>2. Programme Titles for all awards (unabbreviated)</th>
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<td>F723-ACS</td>
<td>BSc (Hons) Actuarial Science</td>
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<tr>
<th>3. Main Award(s) (to be recruited to)</th>
<th>4. Exit Awards (graduation only)</th>
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<td>BSc (Hons) Actuarial Science</td>
<td>Ordinary, Diploma HE, Certificate HE</td>
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<tr>
<th>5. Date of Production</th>
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</thead>
<tbody>
<tr>
<td>03 March 2016</td>
</tr>
</tbody>
</table>

**Stage 4:**

**a. Edinburgh campus**

8 taught courses (at least 6 optional & at most 2 elective).

**Semester 1**

In Semester 1, students must choose at least 3 optional courses, from:

- F79PS Statistics for Social Science,
- F70PE Pensions,
- F70CF Continuous-time Finance,
- F10MM Optimisation,
- F70SC Statistical Computing,

Additionally, Direct Entrants to Stage 3 may choose as an optional course

- F71AB Financial Mathematics,

In order to get the CT1 exemption.

Students can choose at most 1 elective course in Semester 1, which must be approved by the 4th Year Director of Studies (see also Section 8). In most cases, an approved elective will be an SCQF Level 9 or 10 course in either mathematics or finance.

However, Direct Entrants to Stage 2 and Direct Entrants to Stage 3 are permitted to take C27OA Introductory Economics as an elective provided they have sufficient courses at SCQF Levels 9 and 10. This is to allow them to gain the CT7 exemption.

**Semester 2**

In Semester 2, students must choose at least 3 optional courses, from:

- F79BI Bayesian Inference & Computational Methods,
- F70RT Risk Theory,
- F70TS Time Series Analysis,
- F70LP Life Office Practice.

Students can choose at most 1 elective course in Semester 2, which must be approved by the 4th Year Director of Studies (see also Section 8). In most cases, an approved elective will be an SCQF Level 9 or 10 course in either mathematics or finance.

However, Direct Entrants to Stage 3 and Direct Entrants to Stage 4 are permitted to take C37FF Finance and Financial Reporting as an elective provided they have sufficient courses at SCQF Levels 9 and 10. This is to allow them to gain the CT2 exemption.

**Note:** In all cases, the 4th Year Director of Studies will ensure that students are registered for a sufficient number of courses at SCQF level 10.

**b. Malaysia campus**

As for the Edinburgh campus except that the Semester 1 optional course

- F70SC Statistical Computing

Is not offered at the Malaysia campus.
c. Melbourne Exchange Programme
8 taught courses (1 mandatory 60-credit course, at least 3 optional & at most 1 elective).

Semester 1
In Semester 1, while in Melbourne, students must register for
- F70ML Year Abroad – Melbourne B.

Semester 2
In Semester 2, upon their return to Heriot-Watt, students must choose at least 3 of the optional courses
- F70LP Life Office Practice,
- F79BI Bayesian Inference & Computational Methods,
- F70RT Risk Theory,
- F70TS Time Series Analysis,
- F71AJ Financial Economics II (Note: taking in Stage 4 the course F71AJ Financial Economics II, in conjunction with the Stage 3 mandatory course F79PA Portfolio Theory and Asset Models, allows the student to get the CT8 exemption.).

Students can choose at most 1 elective course in Semester 2, which must be approved by the 4th Year Director of Studies (see also Section 8).

It must be checked by the 4th Year Director of Studies that the students do not register for Heriot-Watt courses that are equivalent to those taken for credit by the student while in Melbourne.

d. Waterloo Exchange Programme
8 taught courses (at least 6 optional & at most 2 elective).

The course choices are the same as for the Edinburgh campus except that
- F70CF Continuous-time Finance is excluded from the course choices due to excessive syllabus overlap with F71AJ Financial Economics II,

and with the addition of the optional courses:
- F79PA Portfolio Theory and Asset Models,
- F71AJ Financial Economics II.

(Note: taking F79PA Portfolio Theory and Asset Models and F71AJ Financial Economics II allows the student to get the CT8 exemption.)

It must be checked by the 4th Year Director of Studies that students:
- do not register for Heriot-Watt courses that are equivalent to those taken for credit by the student while in Waterloo, and
- choose at least 4 courses that are at SCQF Level 10 or above.
## Programme Code(s) (recruitment & exit awards)
**F723-ACS**

## Programme Titles for all awards (unabbreviated)
**BSc (Hons) Actuarial Science**

## Main Award(s) (to be recruited to)
**BSc (Hons) Actuarial Science**

## Exit Awards (graduation only)
Ordinary, Diploma HE, Certificate HE

## Date of Production
03 March 2016

### 10. NOMINAL PASS MARK/GRADE

<table>
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<th>Mark Grade</th>
<th>Coursework:</th>
<th>Examination:</th>
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<tbody>
<tr>
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<td>Varied, typically 20%.</td>
<td>Varied, typically 80%.</td>
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**Integrated Masters**: NA NA

<table>
<thead>
<tr>
<th>Mark Grade</th>
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<td>Certificate D</td>
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**Note**: These are default marks/grades. The Board of Examiners may exercise some discretion in accordance to University regulations.

### 11. SUMMARY OF ASSESSMENT METHODS (Expressed as a percentage)

**Integrated Masters**: NA NA

Variations in assessment methods across campuses/modes of study are as follows:

<table>
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<tr>
<th>Mark Grade</th>
<th>Coursework:</th>
<th>Examination:</th>
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<tbody>
<tr>
<td>Honours D</td>
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<tr>
<td>Ordinary D</td>
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<td>Certificate D</td>
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</tr>
</tbody>
</table>

### 12. PROGRESSION REQUIREMENTS

#### Part A. Minimum number of credits required to progress through each stage are as follows

**Stage 1 to 2:**

120 SCQF credits with a minimum of Grade D, at the first attempt, in all courses.

The Board of Examiners has discretion to allow progression at each stage with 1 or 2 Grade Es in non-continuing subjects.

**Stage 2 to 3:**

240 SCQF credits with a minimum of Grade D, at the first attempt, in all courses.

In addition, the following progression rules apply:

- Students must obtain, at the first attempt, an average of at least 50% across the following courses:
  - F78PA Probability and Statistics A,
  - F78PB Probability and Statistics B,
  - F78AA Actuarial and Financial Mathematics A, and
  - F78AB Actuarial and Financial Mathematics B.

Students who fail to meet this requirement, but have obtained a minimum of grade D in all Stage 2 courses, will be transferred to Stage 3 of the BSc (Ordinary) Actuarial Science.

The Board of Examiners has discretion to allow progression at each stage with up to 2 Grade Es in non-continuing subjects.

**Stage 3 to 4:**

**a. Edinburgh campus**

360 SCQF credits with a minimum of Grade D, at the first attempt, in all courses.

In addition, the following progression rules apply:

- Students on the BSc (Ordinary) programme in Actuarial Science will be permitted to transfer back onto the BSc (Honours) programme in Actuarial Science provided they obtain an overall average of at least 50% in all courses taken in Stage 3.

The Board of Examiners has discretion to allow progression at each stage with up to 2 Grade Es in non-continuing subjects.

**b. Malaysia campus**

Same requirements as for the Edinburgh campus.

**c. Melbourne Exchange Programme**

Students on the Melbourne exchange must obtain a minimum of Grade D, at the first attempt, in all courses taken in Semester 1 of Stage 3, and they must pass the approved courses taken in Melbourne in Semester 2 of Stage 3.
1. Programme Code(s) (recruitment & exit awards) | 2. Programme Titles for all awards (unabbreviated)  
---|---  
F723-ACS | BSc (Hons) Actuarial Science  
3. Main Award(s) (to be recruited to) | 4. Exit Awards (graduation only)  
BSc (Hons) Actuarial Science | Ordinary, Diploma HE, Certificate HE  
5. Date of Production |  
03 March 2016  
d. Waterloo Exchange Programme  
Students on the Waterloo exchange must pass the approved courses taken in Waterloo in Stage 3.

| Part B. Minimum grade D required in the following courses: |  
---|---  
| Stage 1: | All courses.  
| Stage 2: | All courses.  
| Stage 3: | All courses.  
The Board of Examiners has discretion to allow progression at each stage with up to 2 Grade Es in non-continuing subjects.

13. RE-ASSESSMENT OPPORTUNITIES  
The re-assessment policy for this programme is in line with University Regulations as set out below (please tick)  
Yes ✔️ No  
If you have selected "No" please amend the statement below and highlight changes.

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 examinations 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.

14. AWARDS, CREDITS & LEVEL  
The awards, credits and level for this programme is in line with University Regulations as set out below (please tick)  
Yes ✔️ No  
If you have selected "No" please amend the statement below and highlight changes.

Part A. Credit Requirements

| Integrated Masters | N/A  
| Honours Degree (inc MA) | 480 SCQF credits including a minimum of 180 credits at Level 9 and 10 and at least 90 credits at Level 10 or above  
| Ordinary or General Degree | 360 SCQF credits including a minimum of 60 credits at Level 9  
| Diploma of Higher Education | 240 SCQF credits including a minimum of 90 credits at Level 8  
| Certificate of Higher Education | 120 SCQF credits including a minimum of 90 credits at Level 7  

Part B. Mark/Grade Requirements

| Integrated Masters | Weighted Average >=50% over all qualifying courses at grades A-D  
| Honours Degree (inc MA) | 1st: Straight Average >=70% over all qualifying courses at grades A-D  
| | 2.1: Straight Average >=60% over all qualifying courses at grades A-D  
| | 2.2: Straight Average >=50% over all qualifying courses at grades A-D  
| | 3rd: Straight Average >=40% over all qualifying courses at grades A-D  
| Ordinary or General Degree | Minimum of grade D in all pre-requisite courses (see also note below)  
| Diploma of Higher Education | Minimum of grade D in all pre-requisite courses (see also note below)  
| Certificate of Higher Education | Minimum of grade D in all pre-requisite courses (see also note below)  
Note: These are default marks/grades. The Board of Examiners may exercise some discretion in accordance to University regulations.
| 1. Programme Code(s) (recruitment & exit awards) | F723-ACS |
| 2. Programme Titles for all awards (unabbreviated) | BSc (Hons) Actuarial Science |
| 3. Main Award(s) (to be recruited to) | BSc (Hons) Actuarial Science |
| 4. Exit Awards (graduation only) | Ordinary, Diploma HE, Certificate HE |
| 5. Date of Production | 03 March 2016 |

### Part C. Additional Award Requirements

#### Honours Degree

**a. Edinburgh campus**

The class of honours is determined by the average of the final marks obtained in all courses taken in Stages 3 and 4 that are rated SCQF level 9 or 10 or 11.

**Direct entrants to Stage 4**

Credit for prior learning is awarded for Stages 1, 2 and 3. The class of honours is determined by the average of the final marks obtained in all courses taken at Heriot-Watt in Stage 4 that are rated SCQF level 9 or 10 or 11.

**b. Malaysia campus**

As for the Edinburgh campus.

**c. Melbourne Exchange Programme**

The class of honours is determined by the average of the final marks obtained in all courses taken at Heriot-Watt University in Semester 1 of Stage 3 and Semester 2 of Stage 4 that are rated SCQF level 9 or 10 or 11.

**d. Waterloo Exchange Programme**

The class of honours is determined by the average of the final marks obtained in all courses taken at Heriot-Watt University in Stage 4 that are rated SCQF level 9 or 10 or 11.

#### Ordinary Degree

**a. Edinburgh campus**

There are no additional award requirements.

**b. Malaysia campus**

As for the Edinburgh campus.

**c. Melbourne Exchange Programme**

There are no additional award requirements.

**d. Waterloo Exchange Programme**

There are no additional award requirements.

### 15. ADDITIONAL PROGRAMME INFORMATION

There are additional compulsory subjects in HWUM which are not SCQF-bearing courses and do not impact progression and award at HWU.

### 16. Programme Accredited by

The Edinburgh campus programme is accredited by the Institute and Faculty of Actuaries. The Melbourne and Waterloo exchange programmes are covered only by a subject-by-subject exemption agreement with the Institute and Faculty of Actuaries.

### 17. QAA Subject Benchmarking Group(s)

Mathematics.

### 18. UCAS Code(s)

GG13
Heriot-Watt University – Programme Description Template

1. Programme Code(s) (recruitment & exit awards)
   F723-ACS

2. Programme Titles for all awards (unabbreviated)
   Actuarial Science

3. Main Award(s) (to be recruited to)
   BSc (Hons) F723-ACS

4. Exit Awards (for graduation only)
   BSc (Hons) (F723-ACS)
   BSc (Ord) (F723-ZZZ)

5. Type
   School specialist degree

6. Programme Accredited by
   Mathematical & Computer Sciences

7. UCAS Code
   GG13

8. School
   Mathematical & Computer Sciences

9. QAA SubjectBenchmarking Group(s)
   Mathematics

10. Date of Production/Revision
    25 February 2008/2014

11. Educational Aims of the Programme

The programme aims to provide an education in a wide range of subject areas in actuarial science, probability and statistics, and financial mathematics, supported by appropriate and relevant material in pure and applied mathematics. The programme also aims to offer education in economics and financial reporting. The programme provides courses that cover all the material in the “Core Technical series” of the education strategy of the Institute and Faculty of Actuaries, thus allowing exemptions to be gained from professional examinations.

The principal aims of the programme are to
- provide intensive and high-quality education in an undergraduate context in a wide range of subjects in contemporary actuarial science and statistics, and in economics and finance
- provide coverage of the material in the syllabuses of the subjects CT1 – CT8 in the “Core Technical” series of the Institute and Faculty of Actuaries and provide an opportunity for students to gain exemptions from some or all of the corresponding professional examinations.
- enable students to develop detailed knowledge and critical understanding of central areas in actuarial science and statistics
- enable students to communicate and work effectively with peers and academic staff, demonstrating appropriate levels of autonomy, initiative, and responsibility
- provide students at the undergraduate level with the opportunity to plan and write a dissertation requiring detailed and critical understanding in an area of study related to actuarial science or statistics

12. The Programme provides opportunities for learners to achieve the following outcomes:

**Subject Mastery**
- Understanding, Knowledge and Cognitive Skills
  On completion of the course, students will be able to demonstrate:
    - the acquisition of a range of new skills required in actuarial science, including skills in statistical analysis
    - awareness and understanding of current issues in actuarial science, through teaching informed by current developments in professional matters and in actuarial research
    - extensive knowledge and critical understanding of many of the principal theories and concepts of contemporary actuarial science, and of some of the principal theories and concepts of contemporary statistics, economics, and finance
    - expertise in applying many of the principal skills and techniques used in actuarial science and some of the principal skills and techniques used in statistics, economics, and finance
    - extensive knowledge and understanding of problems in some or all of the following areas: financial mathematics, life insurance mathematics, survival models, risk theory, stochastic processes, financial economics, and the statistics of general insurance

- Scholarship, Enquiry and Research
  On completion of the course, students will be able to:
    - demonstrate that they have developed and can apply skills in critical analysis and evaluation of a wide range of theories, concepts, and techniques which arise in the study and practice of actuarial science
    - demonstrate statistical skills of critically evaluating and modelling data, and reporting findings
    - demonstrate that they have developed problem solving skills
    - identify and analyse issues, at a professional level.
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| **Personal Abilities**                        |                                               |                                   |                                   |                                     |                                 |
| **Industrial, Commercial and Professional Practice** | On completion of the course, students will be in a strong position to move on to a professional environment, with sound knowledge and awareness of the nature of that environment and the demands it will make. They will also have the necessary background and experience to enable them to be ready and able to communicate on technical and general matters with peers and senior colleagues. |                                               |                                   |                                     |                                 |
| **Autonomy, Accountability and Working with Others** | On completion of the course students will be able to:  
- Plan and organise their own learning through self-management and time management  
- Assess issues associated with working as part of a team  
- Communicate effectively at all levels and using a range of media |                                               |                                   |                                     |                                 |
| **Communication, Numeracy and ICT**          | On completion of the course, students will be able to:  
- Demonstrate high levels of numeracy as required by the actuarial profession  
- Adopt a mature and professional attitude to the solution of technical problems.  
- Demonstrate extensive IT skills and use of computer packages such as R, MATLAB, and Excel for solving actuarial problems  
- Make presentations on specialised topics and communicate well with peers and other colleagues |                                               |                                   |                                     |                                 |

**Approaches to Teaching and Learning:**

Course learning outcomes derive from the requirements of the actuarial profession. Teaching on the course is student-focused, with students encouraged to take responsibility for their own learning and development. Teaching approaches and techniques include traditional lectures and tutorial sessions, and innovative computer demonstrations and computer lab sessions. In addition, students learn through structured group work, collaborative student presentations, and independent technical project work.
### Form P10

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### Assessment Policies:

The assessment policy for the course incorporates a range of assessment types. Continuous assessment during some courses and summative assessment at the conclusion of courses both contribute to the overall assessment and are used to formally measure achievement in specified learning outcomes. Understanding, knowledge and subject-specific skills are assessed by coursework assignments and written examinations. Formative assessment is used, especially in Stage 1 and Stage 2, to provide feedback and to inform student learning.

Stage 1 and 2 courses are assessed by end-of-term examinations and/or appropriate coursework (computer projects or assignments). Most Stage 3 and 4 courses are synoptically linked and are assessed at the end of the year. In addition, appropriate formative assessment (e.g. assignments or other coursework) is used throughout Stages 3 and 4. Some Stage 3 and 4 courses (Life Insurance Mathematics, Pensions, and Life Office Practice) also include computer project work. Two Stage 3 courses (Statistical Models A and B) are assessed by research-informed project work (70%), which is carried out over two terms, and by an exam (30%) which covers related preparatory material.

Approaches to assessment are continually reviewed. Further details about methods of assessment are provided in the appropriate course descriptors.

The accompanying Programme Structure template provides details of courses, awards and credits for the programme.

The accompanying Programme Notes provide details of stage notes, progression requirements and award requirements for the programme.