1. Program title(s) and code(s):
   a) Natural Sciences and Geoscience Foundation Year
   This programme provides progression onto BSc / Integrated Masters programmes in Natural Sciences, Geology, Physical Geography and Geography. It is not available as a stand-alone award.
   b) HECOS Code
<table>
<thead>
<tr>
<th>HECOS CODE</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>100391</td>
<td>100</td>
</tr>
</tbody>
</table>
   c) UCAS Code (where required)
   N/A

2. Awarding body or institution:
   University of Leicester

3. a) Mode of study:
    Full-time
   b) Type of study:
    Campus-Based

4. Registration periods:
   The normal period of registration is one year (progressing to a 3 or 4 year UG degree)
   The maximum period of registration for the Foundation Year is 2 years.
   The foundation year is linked to BSc & integrated M-level programmes in Natural Sciences, Geography and Geology, which have their own maximum registration period. The foundation year will contribute towards the maximum registration period of these programmes; this is shown in the programme specifications for these degrees.

5. Typical entry requirements:
   A-levels: CCD – including two science subjects
   BTEC: DDM
   Students with less science backgrounds looking to use the foundation year as a transition route into the related undergraduate programmes will be considered individually.

6. Accreditation of Prior Learning:
   N/A

7. Programme aims:
   The programme aims to:
   - Help students to develop mature, professional, study skills that will equip them to thrive in the higher education environment and beyond.
Undergraduate Programme Specification

- Provide students who lack suitable entry qualifications with training in a range of sciences, mathematics, and study skills, that will enable them to progress onto an undergraduate degree programme in natural sciences, geography or geology.

8. Reference points used to inform the programme specification:

- University of Leicester Learning Strategy 2016-2020
- Specification documents for various A level mathematics qualifications
- Specification documents for various A level science (Physics, Chemistry, Biology, Geography, Geology) qualifications
- Programme (and module) specifications from the following courses to which this foundation year provides progression:

9. Programme Outcomes:

<table>
<thead>
<tr>
<th>Intended Learning Outcomes</th>
<th>Teaching and Learning Methods</th>
<th>How Demonstrated?</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Discipline specific knowledge and competencies</td>
<td>(i) Mastery of an appropriate body of knowledge</td>
<td></td>
</tr>
<tr>
<td>(ii) Understanding and application of key concepts and techniques</td>
<td>Application of different scientific disciplines and mathematical knowledge to specific scenarios</td>
<td>Regular coursework questions with timely feedback. Group work/peer learning. Workshop/surgery sessions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regular coursework assessments. End of semester examinations.</td>
</tr>
<tr>
<td>(iii) Critical analysis of key issues</td>
<td>Students should be able to explain the process of scientific enquiry, the roles of experiment and theory, the limits of science and the role of experimental error. Students should be able to evaluate the reliability of information retrieved from electronic resources</td>
<td>Induction programmes, resource based learning, group projects, seminars</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Presentations, written reports, literature review</td>
</tr>
<tr>
<td>(iv) Clear and concise presentation of material</td>
<td>Students should be able to communicate scientific ideas through written material and oral presentations.</td>
<td>Lectures, seminars, written guidance (handbook). Formative feedback on presentations and reports.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Presentations, written reports, literature review,</td>
</tr>
<tr>
<td>(v) Critical appraisal of evidence with appropriate insight</td>
<td>Distinguish between precision and accuracy and explain the role of experimental error in the scientific process.</td>
<td>Embedded throughout the programme in lectures, seminars workshops, written course material, handbook. Specific instruction through problem solving classes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Written reports, specific coursework assessments.</td>
</tr>
</tbody>
</table>
### Undergraduate Programme Specification

<table>
<thead>
<tr>
<th>Intended Learning Outcomes</th>
<th>Teaching and Learning Methods</th>
<th>How Demonstrated?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(vi) Other discipline specific competencies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use mathematical models to explain various features of scientific phenomena.</td>
<td>Embedded throughout the programme by means of examples in lectures, seminars workshops, written course material. Coursework with rapid feedback</td>
<td>Regular coursework assessments. End of semester examinations</td>
</tr>
<tr>
<td>View mathematics as an integral part of scientific method rather than as a separate, compartmentalised subject.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop observational and descriptive skills in the sciences.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### (b) Transferable skills

#### (i) Oral communication
Students should be able to communicate scientific ideas through oral presentations.
Lectures, seminars, written guidance (handbook). Formative feedback on presentations.
Individual and group presentations.

#### (ii) Written communication
Students should be able to communicate scientific ideas through written material. Students should master the art of setting out a mathematical proof in a clear, logical manner
Lectures, seminars, written guidance (handbook). Formative feedback on written coursework assessments, reports, and mathematical submissions
Reports, regular science coursework assignments, regular competency based mathematical submissions.

#### (iii) Information technology
Students should be able to:
- use electronic resources to find information
- use IT resources to process data
- use IT to present data
Seminars, tutorials, inductions sessions, advice in course materials and handbook, formative feedback on presentations
Individual and group presentations.

#### (iv) Numeracy
Mastery of specific elements of mathematics at AS-level standard
Course materials, pre-reading, lectures, problem classes, formative feedback on coursework submissions, competency-based mathematics tuition
Coursework submissions, end of semester examinations.

#### (v) Team working
Working in groups to solve problems, prepare and deliver reports and presentations.
Feedback in workshops. Formative feedback on presentations and reports.
Presentations and reports, peer assessment.

#### (vi) Problem solving
To apply scientific, and mathematical knowledge to a wide variety of problems
Lectures, workshops, formative feedback on regular coursework assessments.
regular coursework assessments, examinations.

#### (vii) Information handling
Students should be able to correctly process, arrange and present scientific data and draw appropriate conclusions from it
Skills workshops, laboratory practicals, handbooks, formative feedback on coursework assessments.
Laboratory notes, formal laboratory report, coursework assessments.
Undergraduate Programme Specification

<table>
<thead>
<tr>
<th>Intended Learning Outcomes</th>
<th>Teaching and Learning Methods</th>
<th>How Demonstrated?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(viii) Skills for lifelong learning</strong></td>
<td>Professional practice tutorials, compulsory attendance at core learning activities, specific instruction in lectures and seminars, formative feedback on presentations and written material</td>
<td>By keeping ordered notes, by attending sessions and being punctual, through regular coursework assessment and end of semester examinations, reports and presentations.</td>
</tr>
</tbody>
</table>

Students should be able to
- keep an ordered set of course notes
- organise their time effectively
- assimilate and draw accurate conclusions from a wide variety of data
- effectively communicate scientific conclusions in both written and oral form

10. Progression points:
The programme follows the standard senate regulations for Undergraduate Taught Provision, with the following exceptions.
The progression requirements from Year 0 to Year 1 of the related undergraduate programmes are:
- Students will be required to pass all foundation year modules
- Reassessment will ordinarily be offered on one occasion only

In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course.

11. Special features:
None.

12. Indications of programme quality
The teaching methodology has been informed by experience teaching the Interdisciplinary Science/Natural Sciences degree programme to a diverse range of students with widely varying mathematical abilities. Competency-based mathematics has proven very effective in this context. The Methods and Techniques module was informed by similar modules in the IScience course.

13. External Examiner(s) reports
N/A
Appendix 1: Programme structure (programme regulations)

<table>
<thead>
<tr>
<th>Period</th>
<th>Module Code</th>
<th>Module Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1</td>
<td>FS0011</td>
<td>Science 1: Materials</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>CH0063</td>
<td>Methods, Techniques and Skills</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>FS0031</td>
<td>Mathematics 1</td>
<td>15</td>
</tr>
<tr>
<td>Semester 2</td>
<td>FS0013</td>
<td>Science 3: Heat and Energy</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>GY0011</td>
<td>Principles of Earth Science and Earth Systems</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>NT0001</td>
<td>Principles of Biological Sciences</td>
<td>15</td>
</tr>
<tr>
<td>Year Long</td>
<td>CH0061</td>
<td>Introduction to Chemistry</td>
<td>30</td>
</tr>
</tbody>
</table>

Appendix 2: Module specifications

See module specification database