

## Course Specification

| Course Summary Information |   |                  |  |
|----------------------------|---|------------------|--|
| 1                          | <b>Course Title</b>   |                  | BEng (Hons) Civil Engineering with Foundation Year |
| 2                          | <b>BCU Course Code</b>  | <b>UCAS Code</b> | US0740F H20F                                       |
| 3                          | <b>Awarding Institution</b>   |                  | Birmingham City University                         |
| 4                          | <b>Teaching Institution(s)</b><br>(if different from point 3)                         |                  |  |
| 5                          | <b>Professional Statutory or Regulatory Body (PSRB) accreditation</b> (if applicable) |                  |  |

| 6 | Course Description   |
|---|--|
|   | <p>Want to become a Civil Engineer? Study our Civil Engineering BEng degree course at Birmingham City University. This course, designed to meet the requirements of relevant professional bodies, will give you the best start to your career in civil engineering.</p> <p>Much of your learning activity will be hands-on, with access to our strong industry links. You'll also be provided with the latest CAD software, meaning you'll be well equipped to make an impact in an important industry.</p> <p><b>What's covered in the course?</b></p> <p>The Foundation Year course option enables you to study for our BEng (Hons) degree over an extended full-time duration of four years by including a Foundation Certificate (year one of four) in your studies. The Foundation Certificate provides a broad study programme that underpins the follow-on degree. In order to progress to the next year of the degree, it is necessary to achieve a pass in all modules of the Foundation Certificate.</p> <p>On this course you will develop the key transferable skills that modern employers require, such as problem solving, project planning, presentation and communication. Our strong links to industry enable you to apply your learning to problem-based scenarios, ensuring your intellectual and practical competencies are fully developed.</p> <p>Civil engineers build power stations, bridges and motorways; our course will prepare you to work on these projects. You will focus on hydraulics, examining how water flows and drives turbines, and your studies will be enhanced through site visits, field trips and guest lectures.</p> <p>You'll experience a unique simulated workplace and work towards a successful career as a chartered civil engineer.</p> |

| <b>7 Course Awards</b>                    |   |              |                        |
|---|---|--------------|------------------------|
| <b>7a</b>                                 | <b>Name of Final Award</b>  | <b>Level</b> | <b>Credits Awarded</b> |
|   | Bachelor of Engineering with Honours Civil Engineering                                  | 6            | 480                    |
|   | Bachelor of Engineering with Honours Civil Engineering With Professional Placement Year | 6            | 600                    |
| <b>7b Exit Awards and Credits Awarded</b> |   |              |                        |
|   | Foundation Certificate Engineering  | 3            | 120                    |
|   | Certificate of Higher Education Civil Engineering                                       | 4            | 240                    |
|   | Diploma of Higher Education Civil Engineering   | 5            | 360                    |
|   | Bachelor of Engineering Civil Engineering   | 6            | 420                    |

| <b>8 Derogation from the University Regulations</b> |                |
|---|----------------|
|   | Not applicable |

| <b>9 Delivery Patterns</b>       |                             |                          |                |
|----------------------------------|-----------------------------|--------------------------|----------------|
| <b>Mode(s) of Study</b>          | <b>Location(s) of Study</b> | <b>Duration of Study</b> | <b>Code(s)</b> |
| Full Time                        | City Centre                 | 4 years                  | US0740F        |
| With Professional Placement Year | City Centre                 | 5 years                  | US1154         |

| <b>10 Entry Requirements</b>  |  |
|---|--|
| <p>The admission requirements for this programme are stated on the programme page of the BCU website at <a href="https://www.bcu.ac.uk/">https://www.bcu.ac.uk/</a> or may be found by searching for the programme entry profile located on the UCAS website.</p> |  |

|           |  |
|-----------|--|
| <b>11</b> | <b>Course Learning Outcomes</b>  |
|           | <b>Knowledge &amp; Understanding</b>   |
| <b>1</b>  | Apply scientific principles, theories, and design processes and methods that underpin civil engineering and its branches (structural, geotechnical, water, and transportation).  |
| <b>2</b>  | Apply analytical, numerical, and computational techniques used to model, simulate, design, and develop solutions to civil engineering problems.  |
| <b>3</b>  | Use and critically appraise business, organisational, teamwork, and management practices in industries based on civil engineering.   |
|           | <b>Cognitive &amp; Intellectual Skills</b>   |
| <b>4</b>  | Argue rationally and draw independent conclusions based on a rigorous, analytical, and critical approach.  |
| <b>5</b>  | Critically appraise the usefulness of new technologies and the changes in civil engineering practice.  |
| <b>6</b>  | Develop innovative designs and solutions based on a broad range of scientific principles in order to meet a specification, while taking into account commercial risks and constraints, contractual issues, and environmental impact.     |
|           | <b>Practical &amp; Professional Skills</b>   |
| <b>7</b>  | Demonstrate practical engineering skills in the use appropriate laboratory and workshop equipment, following appropriate Health & Safety guidelines.   |
| <b>8</b>  | Use digital technology for the modelling, analysis, and design of civil engineering projects, recognising their limitations and being aware of the directions for future development.  |
| <b>9</b>  | Apply industry Codes of Practice, including national and international standards, as well as the relevant Health & Safety regulation.  |
|           | <b>Key Transferable Skills</b>   |
| <b>10</b> | Participate effectively in group working activities in a leadership role, being able to undertake most of the technical functions within the group and managing the delivery of a plan under changing circumstances in a timely fashion. |
| <b>11</b> | Integrate a wide range of data from a variety of sources in order to solve a range of engineering problems, apply knowledge and understanding to challenging situations, while being aware of the limitations of the solution.           |
| <b>12</b> | Make effective use of information and communications technologies, including use of the internet, standard office applications, and a range of civil engineering-specific software packages.   |

| <b>12</b>   | <b>Course Requirements</b>   |              |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
|-------------|--|--------------|-------------|--------------|---------|-----------------------------|----|---------|-----------------------------|----|---------|--------------------|----|---------|--------------------|----|---------|-----------------------|----|---------|-----------------------|----|-------------|-------------|--------------|---------|--------------------------|----|---------|--------------------------|----|---------|--------------------------|----|---------|----------------------|----|---------|--------------------------|----|---------|--------------------------------|----|-------------|-------------|--------------|---------|--------------|----|---------|----------------|----|---------|--------------------|----|---------|-----------------------------|----|---------|--------------------------------|----|---------|--|----|
| <b>12a</b>  | <p><b>Level 3:</b></p> <p><i>In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):</i></p> <table border="1"> <thead> <tr> <th>Module Code</th> <th>Module Name</th> <th>Credit Value</th> </tr> </thead> <tbody> <tr> <td>ENG3009</td> <td>Mathematics for Engineers 1</td> <td>20</td> </tr> <tr> <td>ENG3012</td> <td>Mathematics for Engineers 2</td> <td>20</td> </tr> <tr> <td>ENG3011</td> <td>Practical Skills 1</td> <td>20</td> </tr> <tr> <td>ENG3014</td> <td>Practical Skills 2</td> <td>20</td> </tr> <tr> <td>ENG3010</td> <td>Engineering Science 1</td> <td>20</td> </tr> <tr> <td>ENG3013</td> <td>Engineering Science 2</td> <td>20</td> </tr> </tbody> </table> <p><b>Level 4:</b></p> <p><i>In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):</i></p> <table border="1"> <thead> <tr> <th>Module Code</th> <th>Module Name</th> <th>Credit Value</th> </tr> </thead> <tbody> <tr> <td>ENG4091</td> <td>Engineering Principles 1</td> <td>20</td> </tr> <tr> <td>ENG4124</td> <td>Mathematical Modelling 1</td> <td>20</td> </tr> <tr> <td>ENG4094</td> <td>Engineering Principles 2</td> <td>20</td> </tr> <tr> <td>ENG4093</td> <td>Engineering Practice</td> <td>20</td> </tr> <tr> <td>ENG4125</td> <td>Mathematical Modelling 2</td> <td>20</td> </tr> <tr> <td>ENG4096</td> <td>Integrated Engineering Project</td> <td>20</td> </tr> </tbody> </table> <p><b>Level 5:</b></p> <p><i>In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):</i></p> <table border="1"> <thead> <tr> <th>Module Code</th> <th>Module Name</th> <th>Credit Value</th> </tr> </thead> <tbody> <tr> <td>BNV5124</td> <td>Structures 1</td> <td>20</td> </tr> <tr> <td>BNV5123</td> <td>Soil Mechanics</td> <td>20</td> </tr> <tr> <td>ENG5099</td> <td>Numerical Analysis</td> <td>20</td> </tr> <tr> <td>BNV5132</td> <td>Civil Engineering Materials</td> <td>20</td> </tr> <tr> <td>BNV5121</td> <td>Civil Engineering Applications</td> <td>20</td> </tr> <tr> <td>BNV5120</td> <td>Integrated Digital Design for Complex Structures</td> <td>20</td> </tr> </tbody> </table> | Module Code  | Module Name | Credit Value | ENG3009 | Mathematics for Engineers 1 | 20 | ENG3012 | Mathematics for Engineers 2 | 20 | ENG3011 | Practical Skills 1 | 20 | ENG3014 | Practical Skills 2 | 20 | ENG3010 | Engineering Science 1 | 20 | ENG3013 | Engineering Science 2 | 20 | Module Code | Module Name | Credit Value | ENG4091 | Engineering Principles 1 | 20 | ENG4124 | Mathematical Modelling 1 | 20 | ENG4094 | Engineering Principles 2 | 20 | ENG4093 | Engineering Practice | 20 | ENG4125 | Mathematical Modelling 2 | 20 | ENG4096 | Integrated Engineering Project | 20 | Module Code | Module Name | Credit Value | BNV5124 | Structures 1 | 20 | BNV5123 | Soil Mechanics | 20 | ENG5099 | Numerical Analysis | 20 | BNV5132 | Civil Engineering Materials | 20 | BNV5121 | Civil Engineering Applications | 20 | BNV5120 | Integrated Digital Design for Complex Structures | 20 |
| Module Code | Module Name  | Credit Value |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG3009     | Mathematics for Engineers 1  | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG3012     | Mathematics for Engineers 2  | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG3011     | Practical Skills 1   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG3014     | Practical Skills 2   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG3010     | Engineering Science 1  | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG3013     | Engineering Science 2  | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| Module Code | Module Name  | Credit Value |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG4091     | Engineering Principles 1   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG4124     | Mathematical Modelling 1   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG4094     | Engineering Principles 2   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG4093     | Engineering Practice   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG4125     | Mathematical Modelling 2   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG4096     | Integrated Engineering Project   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| Module Code | Module Name  | Credit Value |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| BNV5124     | Structures 1   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| BNV5123     | Soil Mechanics   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| ENG5099     | Numerical Analysis   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| BNV5132     | Civil Engineering Materials  | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| BNV5121     | Civil Engineering Applications   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |
| BNV5120     | Integrated Digital Design for Complex Structures   | 20           |             |              |         |                             |    |         |                             |    |         |                    |    |         |                    |    |         |                       |    |         |                       |    |             |             |              |         |                          |    |         |                          |    |         |                          |    |         |                      |    |         |                          |    |         |                                |    |             |             |              |         |              |    |         |                |    |         |                    |    |         |                             |    |         |                                |    |         |  |    |

**Professional Placement Year (optional)**

***In order to qualify for the award of Bachelor of Engineering with Civil Engineering with Professional Placement Year, a student must successfully complete all of the modules listed as well as the following Level 5 module:***

| Module Code | Module Name            | Credit Value |
|-------------|------------------------|--------------|
| TBC         | Professional Placement | 120          |

**Level 6:**

***In order to complete this course a student must successfully complete all the following CORE modules (totalling 120 credits):***

| Module Code | Module Name                          | Credit Value |
|-------------|--------------------------------------|--------------|
| BNV6131     | Hydraulics and Drainage              | 20           |
| BNV6132     | Geotechnical Engineering             | 20           |
| BNV6135     | Structures 2                         | 20           |
| BNV6134     | Advanced Analysis and Design Methods | 20           |
| BNV6200     | Individual Honours Project           | 40           |

**12b Structure Diagram**
**Level 3**

| <b>SEMESTER ONE</b>   | <b>SEMESTER TWO</b>   |
|---|---|
| Mathematics for Engineers 1 (20 credits)<br>Engineering Science 1 (20 credits)<br>Practical Skills 1 (20 credits) | Mathematics for Engineers 2 (20 credits)<br>Engineering Science 2 (20 credits)<br>Practical Skills 2 (20 credits) |

**Level 4**

| <b>SEMESTER ONE</b>   | <b>SEMESTER TWO</b>   |
|---|---|
| Engineering Principles 1 (20 credits)<br>Mathematical Modelling 1 (20 credits)<br>Engineering Practice (20 credits) | Engineering Principles 2 (20 credits)<br>Mathematical Modelling 2 (20 credits)<br>Integrated Engineering Project (20 credits) |

**Level 5**

| <b>SEMESTER ONE</b>  | <b>SEMESTER TWO</b>   |
|--|---|
| Structures 1 (20 credits)<br>Soil Mechanics (20 credits)<br>Civil Engineering Materials (20 credits) | Numerical Analysis (20 credits)<br>Civil Engineering Applications (20 credits)<br>Integrated Digital Design for Complex Structures (20 credits) |

**Professional Placement Year 3 (optional)**

**Professional Placement Module 120 Credits**

**Level 6**

| <b>SEMESTER ONE</b>   | <b>SEMESTER TWO</b>  |
|---|--|
| Structures 2 (20 credits)<br>Hydraulics and Drainage (20 credits) | Geotechnical Engineering (20 credits)<br>Advanced Analysis and Design Methods (20 credits) |
| Individual Honours Project (40 credits)                           |  |

**13 Overall Student Workload and Balance of Assessment**

Overall student *workload* consists of class contact hours, independent learning and assessment activity, with each credit taken equating to a total study time of around 10 hours. While actual contact hours may depend on the optional modules selected, the following information gives an indication of how much time students will need to allocate to different activities at each level of the course.

- *Scheduled Learning* includes lectures, practical classes and workshops, contact time specified in timetable
- *Directed Learning* includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning
- *Private Study* includes preparation for exams

The *balance of assessment* by mode of assessment (e.g. coursework, exam and in-person) depends to some extent on the optional modules chosen by students. The approximate percentage of the course assessed by coursework, exam and in-person is shown below.

**Level 3**
**Workload**
**% time spent in timetabled teaching and learning activity**

| <b>Activity</b>    | <b>Number of Hours</b> |
|--------------------|------------------------|
| Scheduled Learning | 480                    |
| Directed Learning  | 0                      |
| Private Study      | 720                    |
| <b>Total Hours</b> | <b>1200</b>            |

**Balance of Assessment**

| <b>Assessment Mode</b> | <b>Percentage</b> |
|------------------------|-------------------|
| Coursework             | 37%               |
| Exam                   | 47%               |
| In-Person              | 17%               |

**Level 4**

### Workload

% time spent in timetabled teaching and learning activity

| Activity           | Number of Hours |
|--------------------|-----------------|
| Scheduled Learning | 432             |
| Directed Learning  | 0               |
| Private Study      | 768             |
| <b>Total Hours</b> | <b>1200</b>     |

### Balance of Assessment

| Assessment Mode | Percentage |
|-----------------|------------|
| Coursework      | 30%        |
| Exam            | 47%        |
| In-Person       | 23%        |

### Level 5

### Workload

% time spent in timetabled teaching and learning activity

| Activity           | Number of Hours |
|--------------------|-----------------|
| Scheduled Learning | 288             |
| Directed Learning  | 214             |
| Private Study      | 698             |
| <b>Total Hours</b> | <b>1200</b>     |

### Balance of Assessment

| Assessment Mode | Percentage |
|-----------------|------------|
| Coursework      | 52%        |
| Exam            | 45%        |
| In-Person       | 3%         |

### Level 6

### Workload

% time spent in timetabled teaching and learning activity

| Activity           | Number of Hours |
|--------------------|-----------------|
| Scheduled Learning | 324             |
| Directed Learning  | 212             |
| Private Study      | 664             |
| <b>Total Hours</b> | <b>1200</b>     |

### Balance of Assessment

| Assessment Mode | Percentage |
|-----------------|------------|
|-----------------|------------|



|            |     |
|------------|-----|
| Coursework | 60% |
| Exam       | 40% |
| In-Person  | 0   |