**TEMPLATE FOR PROGRAMME SPECIFICATION**

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| HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW |

**PROGRAMME SPECIFICATION**

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| This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme. |

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| University of Technology | 1. Teaching Institution |
| Building and Construction Engineering | 2. University Department/Centre |
| Science Engineering and dams | 3. Programme Title |
| BSc. Engineering and dams | 4. Title of Final Award |
| Annual | 5. Modes of Attendance offered |
| Accreditation Board for Engineering and Technology (ABET) | 6. Accreditation |
| Ministry of Higher Education and Scientific Research | 7. Other external influences |
| 23/3/2014 | 8. Date of production/revision of this specification |
| 9. Aims of the Programme | |
| Provide efficient and queens Engineering qualified in subspecialties in the field of water engineering and dams to meet the needs of the country and according to the requirements of achieving the goals of scientific development and economic, social and insurance queens teaching universities and technical institutes. | |
| Continued development of curricula and study plans and all stages and levels of study to keep up with the latest developments in engineering and water dams. | |
| To strive towards keeping up with the rapid developments in the field of information technology, data analysis and mathematical methods and computational and experimental methods of modern. | |
| Focus on scientific research and its key role in serving the community and solving problems through applied research. | |
| openness to public sector institutions related to the provision of scientific advice, engineering and preparation of various training courses in the development and capacity building for its staff Engineering | |
| relentless pursuit and continuing to improve the performance and scalability in the fields of engineering, scientific and administrative to ensure the overall quality and speed in obtaining academic accreditation. | |
| Encourage scientific and cultural cooperation with universities and scientific institutions and the Arab world and the exchange of experiences in order to ensure the development of scientific research and improve the educational process | |

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| 10. Learning Outcomes, Teaching, Learning and Assessment Methods |
| 1. Knowledge and Understanding   A1. student acquires the basic information for water engineering, dams and their applications in various fields of engineering  A2. The student acquires decision-making skills  A3. students are trained on the conclusion and innovation  A4. The student acquires the skills of spatial analysis appropriate to the needs of the labor market |
| 1. Subject-specific skills   B1.use of devices cadastral site survey instruments and tools such as tape and pillars and Theodolite and a settlement Level station and integrated total station and devices in GPS and modern surveying programs. Which focuses on the areas of work in the Water Engineering and dams.  B2. The use of devices and GPS systems in the work of surveying and mapping and the establishment of point constants ground for aerial survey projects.  B3. Use of computers, programs, and systems design of hydraulic systems and water projects and dams.  B4. Emphasis on the optimal use of modern methods used in the design, operation and safety of dams and irrigation and drainage works. And the application of the best ways to study the economics of water resources. |
| Teaching and Learning Methods |
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| Assessment methods |
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| 1. Thinking Skills   C1. A student can compile and display and analyze the data and draw conclusions and circulate  C2. Students are trained to think logically scientific  C3. Student can formulate research hypotheses and tested in a manner proper geometric  C4. |
| Teaching and Learning Methods |
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| Assessment methods |
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| D. General and Transferable Skills (other skills relevant to employability and personal development)  D1. Follow the best ways and methods to provide advice and guidance of the students about their future career  D2. Activating activities outside the university, such as working in the field of implementation of construction projects and summer training  D3. Development of skills in the magazines in the field of applied structural analysis and design.  D4. The development of capabilities and skills in the preparation of studies and research and design projects Bagliah dams and the use of equipment and machinery, hydraulic modern. | | | | |
| Teaching and Learning Methods | | | | |
|  | | | | |
| Assessment Methods | | | | |
|  | | | | |
| 12. Awards and Credits | 11. Programme Structure | | | |
| Credit  rating | **Course or Module Title** | Course or  Module  Code | Level/Year |
| Bachelor Degree  Requires ( x ) credits | 900 | **Engineering Mechanics** | B.E.5101 | First Year |
| **Mathematics (I)** | B.E.5102 |
|  | **Building Materials Technology** | B.E.5103 |
| **Engineering Drawing** | B.E.5104 |
| **Engineering Geology** | B.E.5105 |
| **Principles of Computers** | B.E.5106 |
|  | **Principles of Hydrology and Water Resources** | B.E.5107 |
|  | **Human Rights** | B.E.5108 |
|  | **Workshops** | B.E.5109 |
|  | 900 | **Strength of Materials** | B.E.5201 | Second Year |
|  | **Mathematics (II)** | B.E.5202 |
|  | **Concrete Technology** | B.E.5203 |
|  | **Engineering Surveying** | B.E.5204 |
|  | **Fluid Mechanics** | B.E.5205 |
|  | **Construction of Hydraulic Structures** | B.E.5206 |
|  | **Computer Programming** | B.E.5207 |
|  | **Engineering Statistics** | B.E.5208 |
|  | 930 | **Soil Mechanics** | B.E.5301 | Third Year |
|  | **Engineering Analysis and Numerical Methods** | B.E.5302 |
|  | **Remote Sensing and GIS** | B.E.5303 |
|  | **Hydraulic Structures** | B.E.5304 |
|  | **Sanitary Engineering** | B.E.5305 |
|  | **Engineering Hydrology** | B.E.5306 |
|  | **Theory of Structures** | B.E.5307 |
|  | **Hydraulic Equipment and Machines** | B.E.5308 |
|  | **Water Quality Control** | B.E.5309 |
|  | 900 | **Design, Operation and Safety of Dams** | B.E.5401 | Fourth Year |
|  | **Irrigation and Drainage Engineering** | B.E.5402 |
|  | **Steel and Concrete Design** | B.E.5403 |
|  | **Economy and Management of Water Resources** | B.E.5404 |
|  | **Earth Structures** | B.E.5405 |
|  | **Computer Applications** | B.E.5406 |
|  | **Foundation Engineering** | B.E.5407 |
|  | **Quantity Surveying** | B.E.5408 |
|  | **Graduation Project** | B.E.5409 |

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| 13. Personal Development Planning |
| The vocabulary lessons and tutorial in the case of constant development by the faculty and by the Scientific Committee in the branch. There are 10% allowed for a change in vocabulary curriculum annually, while the overall evaluation shall be every four years after each complete cycle starting from the first stage to reach the fourth stage. |
| 14. Admission criteria . |
| Students are admitted in Section acceptance centrally through the distribution of students by the ministry at various colleges and institutes , where the student graduates from junior high school science section by filling in a form of acceptance, which include many choices and is determined by the lowest rate possible for the student through admission to the section by counting the number of applicants to the department and the student under the sequence of choices , and generally ranges from the lowest rate of acceptance in the section annually between ( 88) to ( 90 ) . After that the students are distributed on the branches depending on the desires that choices by filling out a form for the branches of engineering as well as the average student in the preparatory stage , and generally gets Branch Water Engineering and dams on Edna rates |
| 15. Key sources of information about the programme |
| To the fact that the branch is one of the rings in the structure of the state being a government institution. Therefore, the policies of the branch and section and strategies linked directly and closely strategy of the state and the ministry and not the branch played a major role in determining these strategies except if you modify the curriculum periodically and in line with the needs of society and the evolution of it, In addition to the limited possibility of overlapping branch in determining the terms of reference required or not required and the number of students admitted. |

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| **Curriculum Skills Map** | | | | | | | | | | | | | | | | | | | |
| **please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed** | | | | | | | | | | | | | | | | | | | |
| **Programme Learning Outcomes** | | | | | | | | | | | | | | | |  | | | |
| General and Transferable Skills (or) Other skills relevant to employability and personal development | | | | Thinking Skills | | | | Subject-specific skills | | | | Knowledge and  understanding | | | | Core (C)  Title or Option  (O**)** | Course Title | Course  Code | Year / Level |
| **D4** | **D3** | **D2** | **D1** | **C4** | **C3** | **C2** | **C1** | **B4** | **B3** | **B2** | **B1** | **A4** | **A3** | **A2** | **A1** |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  | √ | **Primary** | Engineering Mechanics | B.E.5101 | **First Year** |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  | √ | Mathematics (I) | B.E.5102 |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  | √ | Building Materials Technology | B.E.5103 |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  | √ | Engineering Drawing | B.E.5104 |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  | **√** |  |  | Engineering Geology | B.E.5105 |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  | **√** | Principles of Computers | B.E.5106 |
|  |  |  | √ |  | √ |  |  |  |  | √ |  | **√** |  |  |  | Principles of Hydrology and Water Resources | B.E.5107 |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  | √ | Human Rights | B.E.5108 |
|  |  |  | √ |  | √ |  |  |  |  | √ |  |  |  |  | √ | Workshops | B.E.5109 |
|  |  |  | **√** |  | **√** |  |  |  |  | **√** |  |  |  |  | **√** | **Primary** | Strength of Materials | B.E.5201 | **Second Year** |
|  |  |  | **√** |  | **√** |  |  |  |  | **√** |  |  |  |  | **√** | Mathematics (II) | B.E.5202 |
|  |  |  | **√** |  | **√** |  |  |  |  | **√** |  |  |  |  | **√** | Concrete Technology | B.E.5203 |
|  |  |  | **√** |  | **√** |  |  |  |  | **√** |  |  |  |  | **√** | Engineering Surveying | B.E.5204 |
|  |  |  | **√** |  | **√** |  |  |  |  | **√** |  |  |  |  | **√** | Fluid Mechanics | B.E.5205 |
|  | **√** |  |  |  | **√** |  |  | **√** |  |  |  |  |  | **√** |  | **Optional** | Construction of Hydraulic Structures | B.E.5206 |
|  |  |  | **√** |  | **√** |  |  |  |  | **√** |  |  |  |  | **√** | **Primary** | Computer Programming | B.E.5207 |
|  |  |  | **√** |  | **√** |  |  |  |  | **√** |  |  |  |  | **√** | Engineering Statistics | B.E.5208 |
|  |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  | √ | **Primary** | Engineering Analysis and Numerical Methods | B.E.5301 | **Third Year** |
|  |  |  | √ | √ |  |  |  |  |  | √ |  | √ |  |  |  | Remote Sensing and GIS | B.E.5302 |
|  |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  | √ | **Optional** | Hydraulic Structures | B.E.5303 |
|  |  |  | √ | √ |  |  |  |  |  | √ |  |  | √ |  |  | **Optional** | Sanitary Engineering | B.E.5304 |
|  |  |  | √ | √ |  |  |  | √ |  |  |  | √ |  |  |  | Engineering Hydrology | B.E.5305 |
|  | √ |  |  | √ |  |  |  |  |  | √ |  |  |  |  | √ | **Primary** | Theory of Structures | B.E.5306 |
|  |  |  | √ | √ |  |  |  |  |  | √ |  | √ |  |  |  | **Optional** | Hydraulic Equipment and Machines | B.E.5307 |
|  |  |  | √ | √ |  |  |  |  |  | √ |  | √ |  |  |  | **Primary** | Water Quality Control | B.E.5308 |
|  |  |  | √ | √ |  |  |  |  |  | √ |  |  |  |  | √ | Engineering Analysis and Numerical Methods | B.E.5309 |
|  | √ |  |  |  |  | √ |  |  | √ |  |  | √ |  |  |  | **Optional** | Design, Operation and Safety of Dams | B.E.5401 | **Fourth Year** |
|  | √ |  |  |  |  | √ |  |  | √ |  |  | √ |  |  |  | Irrigation and Drainage Engineering | B.E.5402 |
|  |  | √ |  |  |  | √ |  |  |  | √ |  |  |  | √ |  | **Primary** | Steel and Concrete Design | B.E.5403 |
|  | √ |  |  |  |  | √ |  |  | √ |  |  | √ |  |  |  | **Optional** | Economy and Management of Water Resources | B.E.5404 |
|  | √ |  |  |  |  | √ |  |  | √ |  |  |  | √ |  |  | Earth Structures | B.E.5405 |
|  |  |  | √ |  |  | √ |  |  |  | √ |  |  |  | √ |  | **Primary** | Computer Applications | B.E.5406 |
|  |  |  | √ |  |  | √ |  |  |  | √ |  |  |  |  | √ | Foundation Engineering | B.E.5407 |
|  |  |  | √ |  |  | √ |  |  |  | √ |  |  |  |  | √ | Quantity Surveying | B.E.5408 |
|  |  |  | √ |  |  | **√** |  |  |  | √ |  |  |  |  | √ | Graduation Project | B.E.5409 |

**COURSE SPECIFICATION (Building Materials Technology)**