

**Ministry of Higher Education and Scientific Research**

**Scientific Supervision and Scientific Evaluation Apparatus**

**Directorate of Quality Assurance and Academic Accreditation**

**Accreditation Department**

**Academic Program and Course Description Guide Academic Program and Course Description Guide**

**Academic Program and Course Description Guide**

**2025-2026**

**Introduction:**

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

**Concepts and terminology:**

**Academic Program Description**: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

**Course Description**: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

**Program Vision:** An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

**Program Mission:** Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

**Program Objectives:** They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

**Curriculum Structure:** All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

**Learning Outcomes:** A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

**Teaching and learning strategies:** They are the strategies used by the faculty members to develop students’ teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

**Academic Program Description Form**

**University Name: ..Al- Qasim Green University..............**

**Faculty/Institute: ....Engineering College..............**

**Scientific Department: Water Resources Management Engineering**

**Department**

**Academic or Professional Program Name: Water Resources Management**

**Engineering**

**Final Certificate Name: ..............**

**Academic System:** …………

**Description Preparation Date:**

**File Completion Date:**

**Signature:**

**Head of Department Name:**

**Date:**

**Signature:**

**Scientific Associate Name:**

**Date:**

**The file is checked by:**

**Department of Quality Assurance and University Performance**

**Director of the Quality Assurance and University Performance Department:**

**Date:**

**Signature:**

**Approval of the Dean**

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| 1. **Program Vision** |
| Water Resources Management engineering Department aspires to be a center of excellence in the field of Water Resources in Iraq and competitive in the world. |

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| 1. **Program Mission** |
| 1. Water Resources Management engineering Department has a mission of offering relevant and quality education and training; conducting demand driven research and rendering accessible community services. 2. To prepare Water Resources Management Engineering students for successful scholarly endeavors. 3. To prepare Water Resources Management Engineering students for successful professional careers. |

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| 1. **Program Objectives** |
| The Water Resources Management Engineering Department shall have the following goals;   * Ensure the quality of education and training in water technology. * Advance research and consultancy works in water technology. * Improve services to the community. * Develop a conducive environment for learning and teaching. |

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| 1. **Program Accreditation** |
| Does the program have program accreditation? And from which agency?  The program has not been accredited |

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| 1. **Other external influences** |
| Is there a sponsor for the program?  Yes |

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| 1. **Program Structure** | | | | |
| **Program Structure** | **Number of Courses** | **Credit hours** | **Percentage** | **Reviews\*** |
| **Institution Requirements** | **7** | **15** | 7% |  |
| **College Requirements** | **20** | **101** | 42.08% |  |
| **Department Requirements** | **23** | **124** | 51.6% |  |
| **Summer Training** | **4** |  |  |  |
| **Other** |  |  |  |  |

\* This can include notes whether the course is basic or optional.

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| --- | --- | --- | --- | --- |
| 1. **Program Description** | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Credit Hours** | |
| **Theory** | **practical** |
| **1/1** | QWRE2601 | Mathematics I | 3 |  |
| QWRE2602 | Engineering Mechanics I | 3 |  |
| QWRE2403 | Engineering Drawing |  | 3 |
| QWRE3404 | Introduction of Water Resources Engineering | 4 |  |
| QWRE1405 | Computer Principles and Programming |  | 4 |
| QWRE2406 | Engineering Physics | 2 | 2 |
| QWRE1207 | Arabic Language | 2 |  |
|  |  |  |  |  |
| **1/2** | QWRE2608 | Mathematics II | 3 | - |
| QWRE2609 | Engineering Mechanics II | 3 |  |
| QWRE2610 | Autocad |  | 2 |
| QWRE3411 | Soil physics | 2 | 1 |
| QWRE2412 | Engineering Statistics | 2 | - |
| QWRE2213 | Geology | 2 | - |
| QWRE1214 | English Language | 2 | - |
| QWRE1215 | Human Rights and Democracy | 2 | - |
|  |  |  |  |  |
| **2/1** | QWRE2616 | Mathematics III | 4 | - |
| QWRE2617 | Fluid Mechanics I | 2 | 2 |
| QWRE2618 | Engineering SurveyingI | 2 | - |
| QWRE3619 | Design of Irrigation and drainage systems | 3 | - |
| QWRE2420 | Computer applications | 1 | 2 |
| QWRE1221 | Baath Crimes in Iraq | 2 | - |
|  |  |  |  |  |
| **2/2** | QWRE2822 | Strength of Materials | 4 | \_ |
| QWRE2623 | Fluid Mechanics II | 2 | 2 |
| QWRE2624 | Engineering Surveying II | 2 | \_ |
| QWRE2425 | Concrete Technology | 2 | 2 |
| QWRE2426 | Construction and Building Materials | 2 | 2 |
| QWRE1227 | English Technical writing | 2 | \_ |
|  |  |  |  |  |
| **3/1** | QWRE3728 | Open Channel Hydraulics I | 3 | 2 |
| QWRE3629 | Theory of Structures | 4 | \_ |
| QWRE3430 | Reinforced Concrete Design I | 2 | \_ |
| QWRE3631 | Soil Mechanics | 2 | 2 |
| QWRE3432 | Engineering Hydrology | 2 | - |
| QWRE3333 | Engineering Analysis | 2 | - |
|  |  |  |  |  |
| **3/2** | QWRE3734 | Open Channel Hydraulics II | 3 | 2 |
| QWRE3535 | Reinforced Concrete Design II | 3 | - |
| QWRE3536 | Foundations | 3 | - |
| QWRE3537 | Water Quality Control | 2 | 2 |
| QWRE3438 | Engineering Economic and Management | 2 | - |
| QWRE3439 | Numerical Analysis | 2 | 1 |
|  |  |  |  |  |
| **4/1** | QWRE3540 | Hydraulics Structures I | 3 | - |
| QWRE3541 | Structural design of Hydraulic Structures I | 3 | - |
| QWRE3542 | Dams Engineering | 2 | - |
| QWRE3543 | GIS & Remote Sensing | 2 | 2 |
| QWRE3544 | Estimation and specifications | 3 | - |
| QWRE1245 | Engineering Profession Ethics | 2 | - |
| QWRE2446 | Engineering Project I | - | 1 |
|  |  |  |  |  |
| **4/2** | QWRE3647 | Hydraulics Structures II | 3 | - |
| QWRE3648 | Structural design of Hydraulic Structures II | 3 | - |
| QWRE3649 | Sanitary Engineering | 2 | 1 |
| QWRE3450 | Ground Water Hydraulics | 2 | - |
| QWRE3451 | Water Resources Management | 2 | - |
| QWRE2452 | Engineering Project II | - | 2 |

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| 1. **Expected learning outcomes of the program** | |
| **Knowledge** | |
| Learning Outcomes 1 | Precise specialization in the design and implementation of hydraulic structures such as dams, heads, open channels, pipelines, water tank, irrigation and pumping stations groundwater uses |
| **Skills** | |
| Learning Outcomes 2 | -Characterized by distinct skills on how to optimum operation of hydraulic facilities through the use of modern electronic simulation software, which enables creation of effective solutions to operational problems of those facilities and creating optimal visualization of the operation. |
| Learning Outcomes 3 | -Featuring distinctive skills in the field of sustainable management of water resources whether surface or ground and assess their challenges and develop substantive solutions environmental engineering and how to maintain the water resources from pollution |
| Learning Outcomes 4 | -Possesses the skills in the design and implementation of networks and stations for drinking water and wastewater, as well as his interest in |
| Learning Outcomes 5 | -An ability to apply knowledge of mathematics, science, and engineering |
| Learning Outcomes 6 | -An ability to design and conduct laboratory experiments, as well as to analyze and interpret data. |
| Learning Outcomes 7 | -An ability to function on multi-disciplinary teams. |
| Learning Outcomes 8 | -An ability to identify, formulates, and solves engineering problems |
| **Ethics** | |
| Learning Outcomes 9 | -An understanding of professional and ethical responsibility. |
| Learning Outcomes 10 | -An ability to communicate effectively. |
| Learning Outcomes 11 | -An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. |

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| 1. **Teaching and Learning Strategies** |
| Teaching and learning strategies and methods adopted in the implementation of the program in general.  Lecture/Laboratory./Practical./Tutorial/ Online /Practical Training |

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| 1. **Evaluation methods** | | | | | | |
| Implemented at all stages of the program in general. / Quizzes, Homework's , Discussions during lectures, Written Exams | | | | | | |
| 1. **الهيئة التدريسية** كلية الهندسة /جامعة القاسم الخضراء | | | | | | | | |
| **Faculty** | | | | | | | | |
| **Faculty Members** | | **التخصص** | | **المتطلبات/المهارات الخاصة (ان وجدت )** | | **اعداد الهيئة التدريسية** | | |
| **General** | **Special** |  | | **Staff** | **Lecturer** | |
| **Prof. Qosai Sahib Radi Marshdi** | | **Phd.in Construction Material**  **مواد بناء** | مواد بناء |  |  | ✔ |  | |
| **Prof.**  **Ahmed Samir naje** | | **Ph.D Environmental Engineering هندسة بيئية** | بيئية وصحية |  |  | ✔ |  | |
| **Prof. Haider M. Zwain |** | | **Phd. in Environmental Engineering**  **هندسة بيئية** | بيئة معالجة مياه ومياه ثقيلة |  |  | ✔ |  | |
| **Prof.**  **Hayder Abd Al-Razzaq** | | **Phd.in Remote Sensing Enginering**  **تحسس نائي** | تحسس نائي |  |  | ✔ |  | |
| **Lecturer dr Hadeel Kareem jasim |** | | **Phd. in Environmental Engineering**  **هندسة بيئية** | هندسة بيئية |  |  | ✔ |  | |
| **Assistant Prof. dr.Alaa M. Akool** | | **Phd.in Agricultural Engineering**  **هندسة زراعية** | فيزياء تربة |  |  | ✔ |  | |
| **Assistant Prod.dr Ahlam Hamid jasim** | | **Phd.in Materials Engineering**  **هندسة مواد** | هندسة معادن |  |  | ✔ |  | |
| **Assistant Prof.dr Rasha ali taha |** | | **Phd. in Environmental Engineering**  **هندسة بيئية** | هندسة بيئية |  |  | ✔ |  | |
| **Prof. Assistant.dr**  **Noora.salim Alwan** | | **Phd.in Electricity Engineering**  **هندسة كهرباء** | اتصالات |  |  | ✔ |  | |
| **Prof. Assistant.dr**  **Maryam hameed Naser** | | **Phd.in Structure Engineering**  **هندسة انشاءات** | انشاءات |  |  | ✔ |  | |
| **Lecturer.dr Ghassan Mohammed Salman** | | **Phd. in Environmental Engineering**  **هندسة بيئية** | هندسة بيئية |  |  | ✔ |  | |
| **Lecturer Maytham Kadhim Obeid** | | **Phd. in Environmental Engineering**  **هندسة بيئية** | هندسة بيئية |  |  | ✔ |  | |
| **Prof. Assistant.dr**  **. Idrees Ali Abedulkhudhur** | | **Phd. in Biology**  **علوم حياة** | بيئة |  |  | ✔ |  | |
| **Lecturer. Mustafa kareem Hamza** | | **Phd.in Civil Engineering**  **هندسة مدني** | انشاءات |  |  | ✔ |  | |
| **Assistant Prof.**  **Tholfekar Habeeb Hussain** | | **MSc.in Construction Material**  **هندسة معمارية** | مواد انشائية |  |  | ✔ |  | |
| **Assistant Lecturer Sahar fadel saadon** | | **MSc.in Agricultural Engineering**  **هندسة زراعية** | خصوبة تربة |  |  | ✔ |  | |
| **Assistant Lecturer Doaa fadel mohamemed** | | **MSc.in Mold Engineering** | قوالب |  |  | ✔ |  | |
| **Assistant Prof. Amal Hussein aliwie** | | **MSc.in Mechannical Engineering**  **هندسة ميكانيك** | قدرة حراريات |  |  | ✔ |  | |
| **Assistant Lecturer Hala kadhim** | | **MSC. in Civil Engineering**  **هندسة مدني** | موارد مائية |  |  | ✔ |  | |
| **Assistant Lecturer Zainab Kelfaa Mansee** | | **MSc.in Physics Science**  **علوم فيزياء** | فيزياء نظرية |  |  | ✔ |  | |
| **Assistant Prof.Mohammed hamid rasool** | | **|MSc.in Haydralic Structure**  **منشات هيدروليكية** | منشات هيدروليكية |  |  | ✔ |  | |
| **Assistant Prof.dr Munaf Dheyab Fendi |** | | **MSc.in Agricultural Engineering**  **هندسة زراعية** | مكننة زراعية |  |  | ✔ |  | |
| **Lecturer.Atheer Saad Hashim |** | | **MSc.in Mechannical Engineering**  **هندسة ميكانيك** | ميكانيك عام |  |  | ✔ |  | |
| **Lecturer Ameer Shamke Noor** | | **MSc.in Agricultural Engineering**  **هندسة زراعية** | انتاج حيواني |  |  | ✔ |  | |
| **Assistant Lecturer Thair Hashim Rasheed** | | **MSC. in Civil Engineering**  **هندسة مدني** | موارد مائية |  |  | ✔ |  | |

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| 1. **Faculty** | | | | | | |
| **Faculty Members** | | | | | | |
| **Academic Rank** | **Specialization** | | **Special Requirements/Skills (if applicable)** | | **Number of the teaching staff** | |
| **General** | **Special** |  | | **Staff** | **Lecturer** |
| **Assistant Prof.**  **Ahmed Samir naje** | **Ph.D Environmental Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Prof. Qosai Sahib Radi Marshdi** | **Phd.in Construction Material** |  |  |  | ✔ | ✔ |
| **Assistant Prof. Haider M. Zwain |** | **Phd. in Environmental Engineering |** |  |  |  | ✔ | ✔ |
| **Assistant Prof.**  **Hayder Abd Al-Razzaq** | **Phd.in Remote Sensing Enginering** |  |  |  | ✔ | ✔ |
| **Assistant Prof.**  **Hawraa azeez oleiwi |** | **Phd.inArabic Languag|** |  |  |  | ✔ | ✔ |
| **Assistant Prof.**  **Khalid Fanoukh Abo Kader** | **Phd.in Mathmatical Science** |  |  |  | ✔ | ✔ |
| **Lecturer Hadeel Kareem jasim |** | **Phd. in Environmental Engineering** |  |  |  | ✔ | ✔ |
| **Lecturer.Alaa M. Akool** | **Phd.in Agricultural Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Prof. Ahlam Hamid jasim** | **Phd.in Materials Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Prof. Rasha ali taha |** | **Phd. in Environmental Engineering** |  |  |  | ✔ | ✔ |
| **Prof. Assistant**  **Noora.salim Alwan** | **Phd.in Physics Science** |  |  |  | ✔ | ✔ |
| **Prof. Assistant**  **Maryam hameed Naser** | **Phd.in Structure Engineering** |  |  |  | ✔ | ✔ |
| **Lecturer. Ghassan Mohammed Salman** | **Phd. in Environmental Engineering** |  |  |  | ✔ | ✔ |
| **Lecturer Maytham Kadhim Obeid** | **Phd. in Environmental Engineering** |  |  |  | ✔ | ✔ |
| **Lecturer. Idress Ali Abedulkhudhur** | **Phd. in Environmental science** |  |  |  | ✔ | ✔ |
| **Lecturer. Mustafa kareem Hamza** | **Phd.in Stucture Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Prof.**  **Tholfekar Habeeb Hussain** | **MSc.in Construction Material** |  |  |  | ✔ | ✔ |
| **Assistant Lecturer Sahar fadel saadon** | **MSc.in Agricultural Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Lecturer Doaa fadel mohamemed** | **MSc.in Mold Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Prof. Amal Hussein aliwie** | **MSc.in Mechannical Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Lecturer Hala kadhim** | **MSC. in water Resources Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Lecturer Zainab Kelfaa Mansee** | **MSc.in Physics Science** |  |  |  | ✔ | ✔ |
| **Assistant Prof.Mohammed hamid rasool** | **|MSc.in Haydralic Structure** |  |  |  | ✔ | ✔ |
| **Assistant Prof. Munaf Dheyab Fendi |** | **MSc.in Agricultural Engineering** |  |  |  | ✔ | ✔ |
| **Lecturer.Atheer Saad Hashim |** | **MSc.in Mechannical Engineering** |  |  |  | ✔ | ✔ |
| **Lecturer Ameer Shamke Noor** | **MSc.in Agricultural Engineering** |  |  |  | ✔ | ✔ |
| **Assistant Lecturer Thair Hashim Rasheed** | **MSC. in water Resources Engineering** |  |  |  | ✔ | ✔ |

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| **Professional Development** |
| **Mentoring new faculty members** |
| Providing guidance to them from senior faculty members  Participation in teaching methods courses |
| **Professional development of faculty members** |
| Participation in courses  2- Participation in the workshops  3- Follow up on updates on the curriculum and its related matters |

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| 1. **Acceptance Criterion** |
| Graduates of the sixth preparatory scientific branch  -Graduates of technical institutes |

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| 1. **The most important sources of information about the program** |
| Library / Internet / Websites / Virtual Library |

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| 1. Program Development Plan |
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| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **1/1** | QWRE2601 | Mathematics I | B | ✔ | ✔ |  |  | ✔ | ✔ |  |  | ✔ | ✔ |  |  |
| QWRE2602 | Engineering Mechanics I | B | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |  | ✔ | ✔ |  |  |
| **1/1** | QWRE2403 | Engineering Drawing | B | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| QWRE3404 | Introduction of Water Resources Engineering | C | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| **1/1** | QWRE1405 | Computer Principles and Programming | B | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ | ✔ |
| QWRE2406 | Engineering Physics | B | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ |  | ✔ | ✔ |  |  |
| **1/1** | QWRE1207 | Arabic Language | B | ✔ | ✔ |  |  | ✔ |  |  |  | ✔ |  |  |  |
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| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **1/2** | QWRE2608 | Mathematics II | B | ✔ | ✔ |  |  | ✔ | ✔ |  |  | ✔ | ✔ |  |  |
| QWRE2609 | Engineering Mechanics II | B | ✔ | ✔ |  |  | ✔ | ✔ |  |  | ✔ | ✔ |  |  |
| **1/2** | QWRE2610 | Autocad | B | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ |  | ✔ |  |  |  |
| QWRE3411 | Soil physics | C | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| **1/2** | QWRE2412 | Engineering Statistics | B | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ |  | ✔ |  |  |  |
| QWRE2213 | Geology | B | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |
| **1/2** | QWRE1214 | English Language | S | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| QWRE1215 | Human Rights and Democracy | B |  |  |  |  |  |  |  |  |  |  |  |  |
| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **2/1** | QWRE2616 | Mathematics III | B | ✔ | ✔ | ✔ |  | ✔ | ✔ |  |  |  |  |  |  |
| QWRE2617 | Fluid Mechanics I | C | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ |  | ✔ | ✔ |  |  |
| **2/1** | QWRE2618 | Engineering SurveyingI | B | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ |  | ✔ |  |  |  |
| QWRE3619 | Design of Irrigation and drainage systems | C |  |  |  |  |  |  |  |  |  |  |  |  |
| **2/1** | QWRE2420 | Computer applications | S | ✔ | ✔ |  |  | ✔ | ✔ |  |  |  |  |  |  |
| QWRE1221 | Baath Crimes in Iraq | S |  |  |  |  |  |  |  |  |  |  |  |  |
| **2/1** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Basic or optional Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **2/2** | QWRE2822 | Strength of Materials | B | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| QWRE2623 | Fluid Mechanics II | C | ✔ | ✔ |  |  | ✔ | ✔ |  |  | ✔ |  |  |  |
| **2/2** | QWRE2624 | Engineering Surveying II | B | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ |  | ✔ |  |  |  |
| QWRE2425 | Concrete Technology | B | ✔ | ✔ | ✔ |  | ✔ | ✔ | ✔ |  | ✔ |  |  |  |
| **2/2** | QWRE2426 | Construction and Building Materials | B | ✔ | ✔ | ✔ |  | ✔ | ✔ |  |  |  |  |  |  |
| QWRE1227 | English Technical writing | S | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| **2/2** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **3/1** | QWRE3728 | Open Channel Hydraulics I | C | ✔ | ✔ | ✔ |  | ✔ | ✔ |  |  |  |  |  |  |
| QWRE3629 | Theory of Structures | S | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| **3/1** | QWRE3430 | Reinforced Concrete Design I | S | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |
| QWRE3631 | Soil Mechanics | C | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |  |
| **3/1** | QWRE3432 | Engineering Hydrology | C | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |  |
| QWRE3333 | Engineering Analysis | B | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |  |
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| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **3/2** | QWRE3734 | Open Channel Hydraulics II | C | ✔ | ✔ | ✔ |  | ✔ | ✔ |  |  |  |  |  |  |
| QWRE3535 | Reinforced Concrete Design II | S | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |
| **3/2** | QWRE3536 | Foundations | S | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |
| QWRE3537 | Water Quality Control | C | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ | ✔ |  |  |  |  |
| **3/2** | QWRE3438 | Engineering Economic and Management | S | ✔ | ✔ |  |  |  |  |  |  |  |  |  |  |
| QWRE3439 | Numerical Analysis | B | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ |  |  |  |  |  |
| **3/2** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **4/1** | QWRE3540 | Hydraulics Structures I | C | ✔ | ✔ | ✔ | **✔** |  |  |  |  |  |  |  |  |
| QWRE3541 | Structural design of Hydraulic Structures I | C | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |
| **4/1** | QWRE3542 | Dams Engineering | C | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| QWRE3543 | GIS & Remote Sensing | S | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |  |  |  |  |
| **4/1** | QWRE3544 | Estimation and specifications | S | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |  |  |  |
| QWRE1245 | Engineering Profession Ethics | B | ✔ | ✔ | ✔ | **✔** |  |  |  |  | ✔ | ✔ |  |  |
| **4/1** | QWRE2446 | Engineering Project I | C |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Program Skills Outline** | | | | | | | | | | | | | | | |
|  | | | | **Required program Learning outcomes** | | | | | | | | | | | |
| **Year/Level** | **Course Code** | **Course Name** | **Module type** | **Knowledge** | | | | **Skills** | | | | **Ethics** | | | |
| **A1** | **A2** | **A3** | **A4** | **B1** | **B2** | **B3** | **B4** | **C1** | **C2** | **C3** | **C4** |
| **4/2** | QWRE3647 | Hydraulics Structures II | C | ✔ | ✔ |  |  | ✔ | **✔** |  |  |  |  |  |  |
| QWRE3648 | Structural design of Hydraulic Structures II | C | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ | ✔ | ✔ |  |  |  |
| **4/2** | QWRE3649 | Sanitary Engineering | S | ✔ | ✔ | ✔ | **✔** | ✔ | ✔ | ✔ | ✔ |  |  |  |  |
| QWRE3450 | Ground Water Hydraulics | C | ✔ | ✔ | ✔ | **✔** |  |  |  |  |  |  |  |  |
| **4/2** | QWRE3451 | Water Resources Management | C | ✔ | ✔ | ✔ | **✔** | ✔ |  |  |  |  |  |  |  |
| QWRE2452 | Engineering Project II | C |  |  |  |  |  |  |  |  |  |  |  |  |
| **4/2** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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* **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

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| **Module type** | **B** | Basic learning activities |
| **C** | Core learning activity |
| **S** | Suport or related learning activity |
| **E** | Elective learning activity |