Ministry of Higher Education & Scientific Research

Self-Assessment Report

for the B.Sc. in

Dams and Water Resouces Engineering Program

at the

Dams and Water Resources Engineering Department
University of Anbar

Ramadi, IRAQ

September 1st, 2021

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https://www.uoanbar.edu.iq/EngineeringCollege/English/index.php

1. BACKGROUND INFORMATION

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1.2 Program History

The University of Anbar (UoA) was established in **1987** by Decree No. (51 dated 23/12/1987), located at Ramadi City, Centre of the Governorate of Al-Anbar.
The Dams & Water Resources Engineering Department (DWE) was the first engineering department branched out of civil engineering at University of Anbar in **2002**, and it is specialized in studying dams in terms of (design and implementation) in addition to studying the civil department in a comprehensive manner, except of road engineering.
The period of study is four years to obtain a bachelor's degree in dams and water resources engineering and graduated from its first course in **2002-2003**. The idea of establishing the department as a scientific starting point and renaissance was based on transforming knowledge and science developments into qualified human resources for the localization, innovation, and creativity of technology. The department has provided the community hundreds of graduates, 8 students graduated as a first class for this

department in the 2005-2006 academic year. The members of the Dams & Water Resources Engineering Department have made efforts to improve the level of students in order to serve the scientific process and keep abreast of the continuous developments through updating the curricula, developing laboratories, and carrying out scientific research and publishing them in local and international magazines. The department has demonstrated its scientific progress on its leadership and its ability to respond to the country's development needs, the needs of the advanced field of work, and the provision of qualified graduates who can be proud of their active contribution in supporting the engineering sector.
The DWE offers one undergraduate Dams & Water Resources Engineering program, which leads to a degree titled: Bachelor of Science in Dams & Water Resources Engineering (BSDWE). The DWE offers one postgraduate studies in Dams & Water Resources Engineering program, which leads to a degree titled: Master of Science in Dams & Water Resources Engineering (MSDWE). The BSDWE Program provides students the opportunity to emphasize their studies in the various fields of dams & water resources engineering through the choice of final year technical electives and the topic of focus of their capstone senior design project.

Based on the given identification purposes, the DWE has been marketing the BSDWE Program since 2002 under the following option:
• Bachelor of Science in Dams & Water Resources Engineering (BSc).

The postgraduate studies were first introduced in the department in **2018-2019** in master's degree in Dams & Water Resources Engineering. The DWED has been marketing the MSDWE Program under the following option:
• Master of Science in Dams & Water Resources Engineering (MSc).

1.3 Options

No options in the program

1.4 Program Delivery Modes

The BSDWE Program is offered by the Faculty of Engineering daytime (8-3 pm) on the University of Anbar Campus on a full-time basis in lectures and laboratories. The university utilizes an on-line course management system (Google Classroom) to help organize teaching and learning resources and facilitate students' learning through providing supplementary material to classroom instruction.
The University utilizes the credit-hour system, whereby most theoretical courses are assigned three (3) credit hours and laboratory courses are assigned one (1) credit hour. Students are required to successfully complete the total number of credit hours in the program to graduate. The academic year at the University of Anbar is composed of two regular semesters and an optional summer semester.
The delivery of the BSDWE Program is summarized as follows:

Study Mode	Delivery Timing	Delivery Location	Delivery Mode	Academic Year	Campus
Full Time	Day Time (8 am – 3 pm)	Classrooms and Teaching laboratories	Course-Based following Credit Hours System	Two Semesters (Fall+Spring) + Optional Summer Semester	One Campus (Main UoA Campus)

1.5 Program Locations

The BSDWE Program is offered on the Main Campus of the University of Anbar. All courses and laboratory sessions are conducted in DWED Buildings (DWD1 – DWD7) and the central laboratories. There is no plan to offer the BSDWE Program in other campuses.

1.6 Public Disclosure

https://www.uoanbar.edu.iq/EngineeringCollege/English/CMS.php?ID=135

1.7 Previous Evaluations and the Actions Taken (if applicable)

This will be the first evaluation by an ICAEE evaluation team.

2. ACCREDIATION CRITERIA

2.1 Criterion 1: Program Educational Objectives

2.1.1 Strategic Planning

University of Anbar

Vision

The University of Anbar is searching for a pioneering position in higher education and scientific research and developing the academic programs for achieving the sustaining development.

Mission

The university seeks to provide a distinct quality of education, teaching and scientific research via adopting strategies of analytical and critical thinking for rehabilitation of human resources in the levels of knowledge, thinking, and skills in a creative and competitive environment.

Objectives

The university is working to achieve its mission through the following goals:

1. Upgrading the scientific knowledge via developing the infrastructure on the education and scientific levels and providing distinct strategies of teaching and learning in all academic programs.
2. Developing the academic programs, updating their outputs, and activating the culture of the sustaining education contributing to enhance the capabilities, and the personal, social, academic, and professional skills for improving the level of society life and achieving the 2030 sustaining education goals.
3. Fulfilling the social responsibilities and achieving an effective presence in the society activities contributing to be a way for the social, cultural, scientific, and economic progress.
4. Adopting the highest criteria of evaluation in the institutional and program levels in order to achieve the overall quality administration standards and improve the university website in the local and global ranking.
5. Creating an environment of productive and constructive competition in the area of invention and scientific research and enhancing the product of the applied researches that address the problems of society.
6. Instilling coincidence ties and building the culture of coexistence, the principles of exchanging respect, loyalty, and honesty in order to achieve a distinct role to the university as a leadership institution in the society.
7. Building strategic relations system with the authentic scientific institutions contributing to develop the capabilities and scientific and educational programs.

The UoA vision, mission and objectives statements are published on web site:

https://www.uoanbar.edu.iq/English/CMS.php?ID=123

2.1.2 Statement of PEOs

The program educational objectives of Dams and Water Resources Engineering Department are:

Vision

- To be one of leading Dams and Water Resource Engineering Departments in Iraq and the Arab world .
- To combine science, water recourses engineering principles, and moral conduct to produce world-class graduates.

Mission

To provide students with quality education and carry out basic and applied research.

Objectives

PEO-1: Professional Presence

As a result, within a few years, the graduate has established an Internet presence, either through professional organizations, social networking and/or other activities which demonstrate an appreciation and use of modern technological capabilities.

PEO-2: Workforce Skilled in Integrating Engineering, Design, and modern Technology

As a result, graduates will identify opportunities to contribute to society from a variety of positions, ranging from water management engineering, design and construction of hydraulic structures and engage professionally in private and governmental sectors such as consulting firms, contracting companies, marketing and real-estate investments. The graduate may also pursue further education in the form of graduate and professional degrees.

PEO-3: Leadership in Research, Innovation and Design

As a result, within a few years of graduation, the graduate will have made significant or meaningful contributions in his or her chosen field, either thorough research publications and/or presentations, the development of a new design or construction process, obtaining patents, or other evidence of contributing to the advancement of knowledge, particularly in the fields of hydraulic structures and water resources engineering.

PEO-4: Ethical Reasoning, Behaviour and Professionalism

As a result, within a few years of graduation, the graduate will demonstrate adherence to the professional codes of conduct appropriate to his or her field of study and/or practice,

as well as exhibit behaviour consistent with accepted standards of fiduciary responsibility, risk/benefit analysis and professional accountability.

PEO-5: Communication
As a result, graduates will have outstanding communication skills as evidenced by their professional presentations, and in their productive interactions with co-workers. The graduates may also use their communication skills to foster collaborative effort among co-workers and/or may represent his or her company, institution and/or laboratory to other interested parties.

PEO-6: Personal Engagement
As a result, within a few years, the graduate will be working independently and in multidisciplinary teams to effectively and efficiently achieve personal and organizational goals, engage in community or public service, create a product or construction that fills a social need, and/or participate in educating individuals about an issue of societal concern.

The DWE vision, mission and objectives statements are published on the web site:

https://www.uoanbar.edu.iq/EngineeringCollege/English/CMS.php?ID=135

2.1.3 PEOs Consistency with the Mission Statement

The Educational Objectives (PEOs) of the DWE Program contribute directly to fulfilling the mission of the College of Engineering, which is "to offer a creative and encouraging environment for education and research". The DWE Program also directly contributes to the college mission to deliver "graduates with analytical thinking, advanced knowledge, and skills". The DWE Program, with its technical and non-technical components, and experiences that students go through during their school years promote their "proficiency in their specific specialization fields".

On the departmental level, the mission statement which is "To provide students with quality education and carry out basic and applied research", can be divided into three categories: 1- quality education and 2- basic and applied research. The six PEO's contribute directly to fulfilling the mission because quality of education can be insured by achieving Workforce Skilled in Integrating Engineering, Design, and modern Technology (PEO-2), Ethical Reasoning, Behaviour and Professionalism (PEO-4), Communication (PEO-5) and Personal engagement (PEO-6). While the second branch of the mission will be demonstrated by Professional presence (PEO-1), Leadership in Research, Innovation and Design (PEO-3), Communication (PEO-5) and Personal engagement (PEO-6).

2.1.4 Program Constituencies

The main constituencies of the Dams and Water Resources Engineering program are:

1- Students:

Students have a clear interest in having a broad knowledge of the program related principles, tools, and theories as this prepares them for their careers and helps them secure jobs locally and internationally. The importance of student engagement is reiterated in student forums discussions, the course surveys, and the alumni surveys. All students were participated in the evaluation. All years through assessments and final year through exit survey.

2-Faculty:
Faculty members in the department and those in the university who teach/support teaching of non-civil engineering courses to our students. Many other staff members contribute to the support of the dams and water resources engineering department; these include all laboratory technicians and staff from other departments, IT unit personnel, and others.
All faculty were participated in the evaluation through a specially intended questionnaire in September and through assessments.

3- Alumni:
Alumni are clearly influenced by the department reputation, as this would help them advance their careers. They frequently contact faculty for recruitment purposes. They want to make sure the program adequately prepares them for advancement in the careers. The alumni were participated in the evaluation through alumni survey.

4- Employers:
Employers or industry partners have indicated that they have a clear interest in having students prepared upon entering the workforce. Clearly, the technical and personal preparation of the students is instrumental.
The Dams and Water resources Engineering Department has an Industrial Advisory Board (IAB). The IAB, which is currently composed form leaders of various sectors in the field of Engineering, meets once a year and have played an important role on curriculum changes and continuous improvement of the DWE Program based on the current and future needs of industry. The IAB contributes by both bi-annual meetings and yearly surveys.

2.1.5 PEOs Review Process

The DWE at the University of Anbar has established a program that continues to meet the educational objectives and outcomes as evidenced by the success of graduates, program reputation with employers, and the demand for the program. Table 2-1 summarizes the process to review the PEOs of the DWE program.

Table 1.1: Summary of the process to review the PEOs

Step #	Issue	Trigger/Action/Outcome
1.	Review the PEOs regularly to ensure that they are directly linked to the undergraduate educational missions of the College and University.	Review of the University and College undergraduate educational missions and strategic plans and consider their impact on the PEOs.
2.	Ensure that the PEOs are consistent with published PEOs of other similar programs, noting that the PEOs should be specific to our program.	The Department Accreditation Committee reviews published PEOs of various similar programs offered locally, regionally and internationally, including those of ABET-accredited civil engineering programs. As a result, valuable data are collected for guidance, comparison and benchmarking purposes.
3.	Ensure that the PEOs reflect the hopes and needs of our constituents and convey the reality and unique qualities of our program.	In reviewing the PEOs, the Department Accreditation Committee tries to answer the following questions: **a.** What do our constituents expect our students to be doing a few years after graduation. **b.** What are our alumni actually doing now as well as a few years after graduation; and **c.** How can we convey and express the hopes/expectations of our constituents and the actual achievements of our graduates in few short statements. The answers to these questions provided the basis to review the PEOs.
4.	Formally assess the adequacy, relevance, and achievement of the PEOs.	Conduct formal surveys to achieve the following: **a.** Consult the program constituents on the adequacy and relevance of the PEOs Assess the level of achievement of the PEOs; and **b.** Collect relevant data about the achievement of the PEOs.

The DWE Department continuously seeks feedback from its constituencies on the validity of its PEOs. The following tools were used in the assessment of the PEOs:

a. Alumni Survey
b. Employers Survey
c. Exit Survey
d. Internship/Training
e. Department Advisory Board Survey

2.2 Criterion 2: Graduate outcomes

2.2.1 Adopted Graduate Outcomes

Students of the Dams and Water Resources Engineering program will attain (by the time of graduation):

i) An ability to distinguish, identify, define, formulate, and solve engineering problems by applying principles of engineering, science and mathematics.

ii) An ability to produce engineering designs that meet desired needs within certain constraints by applying both analysis and synthesis in the design process.

iii) An ability to create and carry out proper measurement and tests with quality assurance, analyze and interpret results, and utilize engineering judgment to make inferences.

iv) An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels.

v) An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments taking into account the consequences in worldwide financial, ecological and societal considerations.

vi) An ability to perceive the continual necessity for professional knowledge growth and how to find, assess, assemble and apply it properly.

vii) An ability to work adequately on teams and to set up objectives, plan activities, meet due dates, and manage risk and uncertainty.

The program started in 2010 with a-k graduate outcomes (ABET graduate outcomes), these were changed in 2018 to the 7 more generalized ones. In 2019, the Iraqi accreditation council graduate outcomes where also adopted to fulfill the National Accreditation Criteria.

It has been carefully reviewed whether the Graduate Outcomes are properly linked to our Program Educational Objectives and whether our students would be well prepared to achieve the Program Educational Objectives in future practice if they attain the Graduate Outcomes by the time of graduation. Through the ongoing review and assessment process, no need for additional outcomes has been identified. However, the Graduate Outcomes were lined also to ABET student outcomes to facilitate the procedure of attaining both ABET and National Accreditation.

2.2.2 Relating GOs to PEOs

The achievement of the Graduate Outcomes ensures that our graduates are well equipped to achieve the Program Educational Objectives in actual practice following graduation. The linkage between the individual Program Educational Objective (PEOs) and the Graduate Outcomes (GOs) in addition to ABET SOs are shown below in Fig. 1 and Table 2.

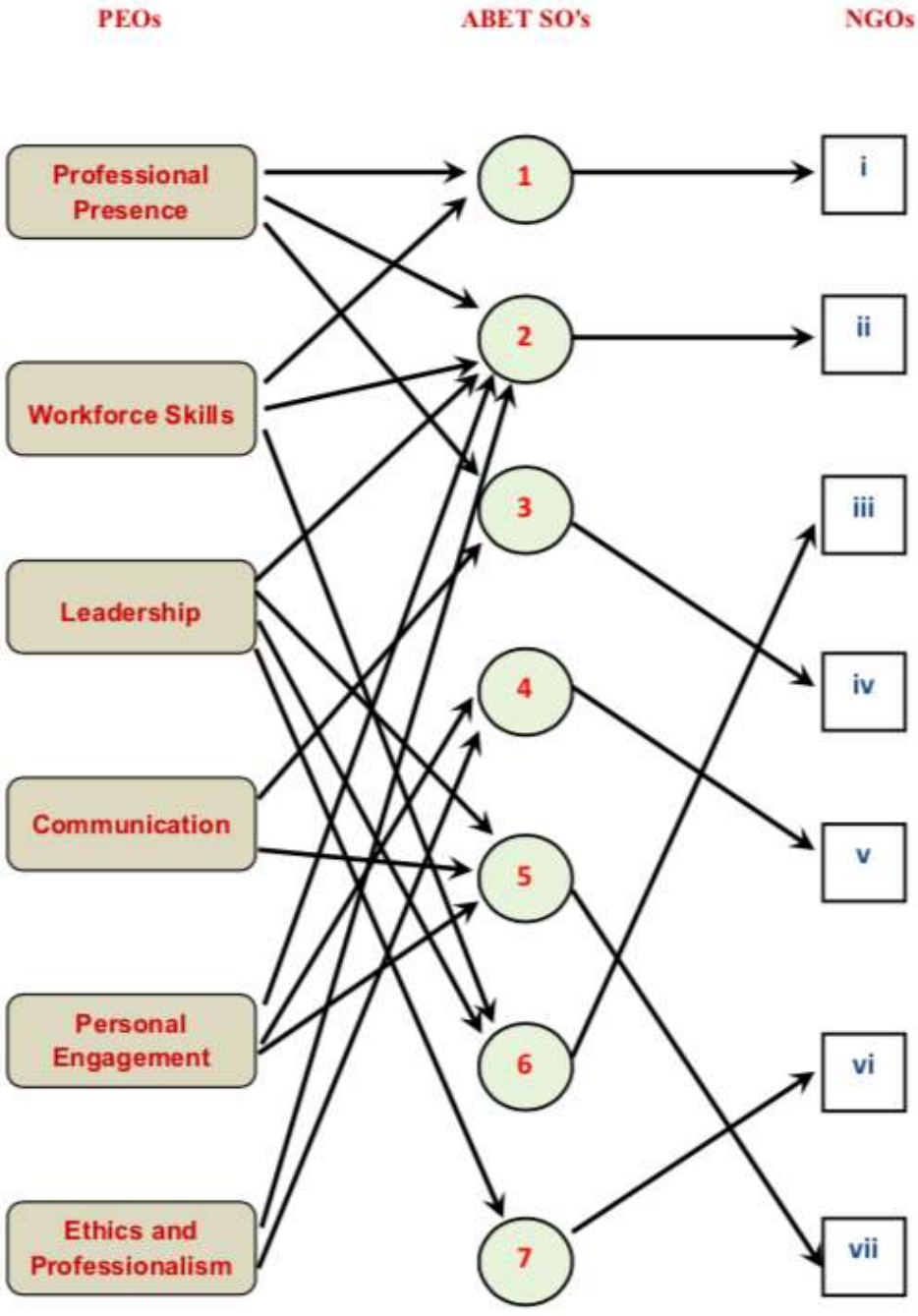


Fig. 2.1: The Relation between College PEO's, NGO's and ABET SO's

Table 2.1: Mapping of Program Educational Objectives to Graduate Outcomes

PEOS	Graduate Outcomes (GOs)						
	I	II	III	IV	V	VI	VII
PEO-1	X			X			
PEO-2	X	X	X				
PEO-3		X	X			X	X
PEO-4				X			X
PEO-5		X			X		X
PEO-6		X			X		

2.3 Criterion 3: Curriculum

2.3.1 Program Structure and Content

2.3.1.1 Study Plan

Table 3.1 describes the plan of study for students in this program including information on course offerings in the form of a recommended schedule by year and term along with maximum section enrollments for all courses in the program for the last two terms the course was taught.

Table 3.1: Curriculum for the Department of Dams and Water Resources Engineering (2018-2019, 2019-2020)

Semester/ Year	Course (Department, Number, Title)	Required(R) Elective (E)	Subject Area (Credit Hours)			Last Two Terms the Course was Offered	Maximum Enrollment for the Last Two Terms
			Math & Basic Sciences	Engineering Topics	Other		
1st Sem. 1st Year	DWE1201: Calculus-1	R	3			F18, F19	16;6
	DWE1203: Physics -1	R	4			F18, F19	16;6
	DWE1210: Computer Science	R			3	F18, F19	16;6
	DWE 1209: Chemistry		4			F18, F19	16;6
	DWE1314: Fundamentals of Electrical Engineering	R		2		F18, F19	16;6
	DWE1101: English Language-I	R			1	F18, F19	16;6
	DWE1103: Human Rights	R			1	F18, F19	16;6
2nd Sem. 1st Year	DWE1202: Calculus-II	R	3			S18, S19	16;6
	DWE1204: Physics -2	R	4			S18, S19	16;6
	DWE1302: Engineering Geology	R		3		S18, S19	16;6
	DWE1313: Engineering Mechanics (Static)			3		S18, S19	16;6
	DWE 1101: Arabic Language	R			3	S18, S19	16;6
	DWE1206: Engineering Drawing	R		3		S18, S19	16;6
	DWE1104: Democracy	R			1	S18, S19	16;6
1st Sem. 2nd Year	DWE2211: Calculus-III	R	3			F18, F19	21;16
	DWE2304: Engineering Mechanics (Dynamics)	R		3		F18, F19	21;16
	DWE2305: Fluid mechanics	R		3		F18, F19	21;16
	DWE2306: Engineering surveying-I	R		3		F18, F19	21;16
	DWE2307: Building Materials Technology	R		3		F18, F19	21;16
	DWE 2103: English Language-II	R			1	F18, F19	21;16
	DWE1209: Computer Programming- Visual Basic	R			3	F18, F19	21;16
2nd Sem. 2nd Year	DWE2212: Calculus-IV	R	3			S18, S19	21;16
	DWE3314: Open Chanel	R		2		S18, S19	21;16
	DWE2309: Concrete Technology	R		3		S18, S19	21;16
	DWE2310: Engineering surveying-II	R		2		S18, S19	21;16
	DWE3316: Soil Physics	R		3		S18, S19	21;16
	DWE3313: Strength of materials	R		3		S18, S19	21;16
	DWE2308: Construction for Wtr Resources Projects	R		2		S18, S19	21;16
1st Sem. 3rd Year	DWE3317: Engineering Hydrology	R		2		F18, F19	35;24
	DWE3318: Soil Mechanics	R		3		F18, F19	35;24
	DWE3319: Environmental Engineering	R		3		F18, F19	35;24
	DWE3320: Engineering Statistics	R	3			F18, F19	35;24
	DWE3321: Theory of Structures	R		3		F18, F19	35;24
	DWE3215: Engineering Management	R		3		F18, F19	35;24
	DWE3315: Hydraulic Machine	R		3		F18, F19	35;24
	DWE3101: English Language-III	R			1	F18, F19	35;24
2nd Sem. 3rd Year	DWE3305: Ground Water Hydrology	R		2		S18, S19	35;24
	DWE3311: Foundations Engineering	R		2		S18, S19	35;24
	DWE3320: Hydraulic Structures	R		3		S18, S19	35;24
	DWE3308: Engineering Numerical Methods	R	3			S18, S19	35;24
	DWE3312: Water quality control	R		3		S18, S19	35;24
	DWE3309: Sanitary Engineering	R		2		S18, S19	35;24

	DWE3314: Reinforced Concrete Design	R		3		S18, S19	35;24
1st Sem. 4th Year	DWE4324: Engineering Optimization	R		3		F18, F19	25;29
	DWE4325: Irrigation Engineering	R		3		F18, F19	25;29
	DWE4326: Design of Dams	R		3		F18, F19	25;29
	DWE4101: Leadership Skills & Eng. Ethics	R			2	F18, F19	25;29
	DWE4332: Design and Eval. of On-farm Irrig. systm	R		2		F18, F19	25;29
	DWE4339: Engineering Economy	E		3		F18, F19	25;29
	DWE4328: Senior Design I	R		3		F18, F19	25;29
2nd Sem. 4th Year	DWE4329: Method of Construction and Estimation	R		3		S18, S19	25;29
	DWE4331: Drainage Engineering	R		3		S18, S19	25;29
	DWE4333: Safety and Operation of Dams	R		3		S18, S19	25;29
	DWE4330: Wtr Resources Planning and Manag.	R		3		S18, S19	25;29
	DWE4335: Remote Sens. & GIS App. in Hydrology	E		3		S18, S19	25;29
	DWE4334: Senior Design II	R		3		S18, S19	25;29
	DWE4104: English Language-IV	R			1	S18, S19	25;29
Sum CR Hours			**30**	**105**	**17**		
Percent of Total			**20 %**	**69%**	**11%**		
			Total CR Hours 152				

1. **Required** courses are required of all students in the program, **elective** courses (often referred to as open or free electives) are optional for students, and **selected elective** courses are those for which students must take one or more courses from a specified group.
2. For courses that include multiple elements (lecture, laboratory, recitation, etc.), indicate the maximum enrollment in each element. For selected elective courses, indicate the maximum enrollment for each option.

Instructional materials and student work verifying compliance with ICAEE criteria for the categories indicated above will be required during the campus visit.

2.3.1.2 Alignment with PEOs

The linkage between the Program Educational Objectives (PEOs) and the Graduate Outcomes (GOs) is shown in Table 3-2. The achievement of the Graduate Outcomes (GOs) ensures that our graduates are well equipped to achieve the Program Educational Objectives in actual practice 3-5 years following graduation.

DWE Program Educational Objectives are as follows:

PEO-1: Professional Presence

As a result, within a few years, the graduate has established an Internet presence, either through professional organizations, social networking and/or other activities which demonstrate an appreciation and use of modern technological capabilities.

PEO-2: Workforce Skilled in Integrating Engineering, Design, and modern Technology

As a result, graduates will identify opportunities to contribute to society from a variety of positions, ranging from water management engineering, design and construction of hydraulic structures and engage professionally in private and governmental sectors such as consulting firms, contracting companies, marketing and real-estate investments. The graduate may also pursue further education in the form of graduate and professional degrees.

PEO-3: Leadership in Research, Innovation and Design

As a result, within a few years of graduation, the graduate will have made significant or meaningful contributions in his or her chosen field, either thorough research publications and/or presentations, the development of a new design or construction process, obtaining patents, or other evidence of contributing to the advancement of knowledge, particularly in the fields of hydraulic structures and water resources engineering.

PEO-4: Ethical Reasoning, Behaviour and Professionalism

As a result, within a few years of graduation, the graduate will demonstrate adherence to the professional codes of conduct appropriate to his or her field of study and/or practice, as well as exhibit behaviour consistent with accepted standards of fiduciary responsibility, risk/benefit analysis and professional accountability.

PEO-5: Communication

As a result, graduates will have outstanding communication skills as evidenced by their professional presentations, and in their productive interactions with co-workers. The graduates may also use their communication skills to foster collaborative effort among co-workers and/or may represent his or her company, institution and/or laboratory to other interested parties.

PEO-6: Personal Engagement

As a result, within a few years, the graduate will be working independently and in multidisciplinary teams to effectively and efficiently achieve personal and organizational goals, engage in community or public service, create a product or construction that fills a social need, and/or participate in educating individuals about an issue of societal concern.

Table 3.2: Mapping of Program Educational Objectives to Graduate Outcomes

PEOS	Graduate Outcomes (GOs)						
	I	II	III	IV	V	VI	VII
PEO-1	X			X			
PEO-2	X	X	X				
PEO-3		X	X			X	X
PEO-4				X			X
PEO-5		X			X		X
PEO-6		X			X		

DWE Graduation Outcomes are derived from the National Accreditation Criterion as follows:

i) An ability to distinguish, identify, define, formulate, and solve engineering problems by applying principles of engineering, science and mathematics.

ii) An ability to produce engineering designs that meet desired needs within certain constraints by applying both analysis and synthesis in the design process.

iii) An ability to create and carry out proper measurement and tests with quality assurance, analyze and interpret results, and utilize engineering judgment to make inferences.

iv) An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels.

v) An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments taking into account the consequences in worldwide financial, ecological and societal considerations.

vi) An ability to perceive the continual necessity for professional knowledge growth and how to find, assess, assemble and apply it properly.

vii) An ability to work adequately on teams and to set up objectives, plan activities, meet due dates, and manage risk and uncertainty.

2.3.1.3 Attainment of GOs

To assure that our graduates achieved the Graduate Outcomes (GOs), the curriculum must contribute for achievement of each Graduate Outcome collectively. As all the Graduate outcomes are addressed within the core curriculum; students of the Dams and Water Resources Engineering Department will be educated and trained to achieve the Graduate Outcomes throughout the coursework. Our courses range between course that teach design, courses that use math, science to analyze and solve engineering problems, never mentioning the lab courses in addition to courses for general education. To help achieving the graduate outcomes, many faculty members are using Problem Based Learning method. In this method, the faculty use many tools related to graduate outcomes like teamwork, communication (seminars and writing reports) and critical thinking taking into considerations the material and social constrains in addition to the global and environmental aspects. Many workshops were organized in the department to explain how to apply modern instructional strategy in teaching and explain the performance indicators with rubrics for each graduate outcome. The teaching in the workshops were supervised by faculty members trained/studied in the US in addition to workshops held by experts from US universities. The ICAEE syllabi for the required courses describe a correlation of the course to the Graduate Outcomes as presented in Table 3-3.

Table 3.3: Program outcome curriculum map with ABET outcomes

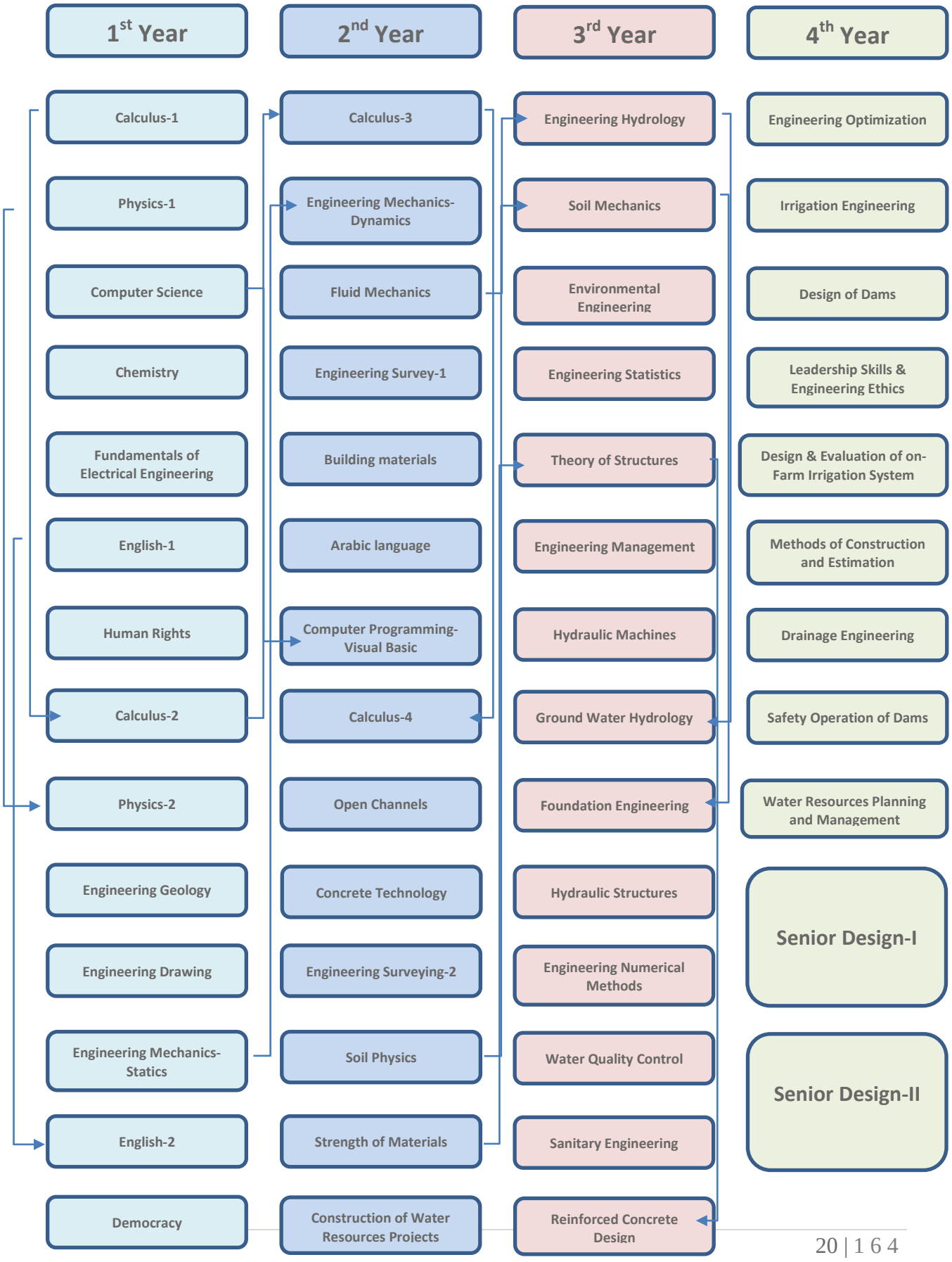
Program SLOs	1	2	3	4	5	6	7	8	9
ABET SO's	1+2+6	1	2+6	6+7	5	3	5	4	2+4
FIRST YEAR									
Calculus-1	×	×							
Physics-1	×	×		×			×		
Computer Science	×	×		×			×		
Chemistry	×	×					×		×
Fundamentals of Electrical Eng.	×	×		×			×		
English Language-1						×			
Human Rights					×			×	×
Calculus-2	×	×							
Physics-2	×	×		×			×		
Engineering Geology	×	×	×	×					
Engineering Drawing	×								
Engineering Mechanics-Static	×	×	×	×			×		
English Language-2						×			
Democracy					×			×	×
SECOND YEAR									
Calculus-III	×	×							
Engineering Mechanics- Dynamics	×	×	×	×			×		
Fluid mechanics	×	×	×	×			×		
Engineering surveying-I	×	×		×					
Building Materials Technology	×	×	×	×					
Arabic Language						×			
Computer Programming- Visual Basic	×	×		×			×		
Calculus-IV	×	×							
Open Chanel	×	×	×	×			×		

Concrete Technology	×	×	×	×					
Engineering surveying-II	×	×		×					
Soil Physics	×	×	×	×			×		
Strength of materials	×	×	×	×			×		
Construction for Water Resources Projects	×		×		×				×
THIRD YEAR									
Engineering Hydrology	×	×		×					
Soil Mechanics	×	×		×					
Environmental Engineering	×	×		×					
Engineering Statistics	×	×		×					
Theory of Structures	×	×		×					
Engineering Management	×	×		×			×	×	×
Hydraulic Machine	×	×		×					
Ground Water Hydrology	×	×		×					
Foundations Engineering	×	×	×	×					
Hydraulic Structures	×	×		×					
Engineering Numerical Methods	×	×		×					
Water quality control	×	×		×					×
Sanitary Engineering	×	×		×					×
Reinforced Concrete Design	×	×		×					
FOURTH YEAR									
Engineering Optimization	×	×	×	×					
Irrigation Engineering	×	×	×	×					
Design of Dams	×	×	×	×					×
Leadership Skills & Engineering Ethics					×	×	×	×	×
Design and Evaluation of On-farm Irrigation systems	×	×	×	×					

Method of Construction and Estimation	×	×	×	×	×	×	×	×	×
Drainage Engineering	×	×	×	×					
Safety and Operation of Dams	×	×	×	×					×
Water Resources Planning and Management	×	×	×	×				×	×
Senior Design- I	×	×	×	×	×	×	×	×	×
Senior Design -II	×	×	×	×	×	×	×	×	×
ELECTIVE COURSES									
Remote Sensing & GIS Applications in Hydrology	×	×		×					
Steel Structure	×	×		×					
River Mechanics	×	×	×	×					
Computer Applications in Water Engineering	×	×	×	×			×		
Engineering Economy	×	×		×			×	×	×
Design of Reinforced Concrete Hydraulic Structures	×	×	×	×					
Irrigation and Drainage Networks	×	×	×	×					

2.3.1.4 Prerequisite Structure

The following chart shows the prerequisite structure of the DWE curriculum. This path is applied for second, third and fourth years only.


1st Year
2nd Year
3rd Year
4th Year
Calculus-1
Physics-1
Computer Science
Chemistry
Fundamentals of Electrical Engineering
English-1
Human Rights
Calculus-2
Physics-2
Engineering Geology
Engineering Drawing
Engineering Mechanics-Statics
English-2
Democracy
Calculus-3
Engineering Mechanics-Dynamics
Fluid Mechanics
Engineering Survey-1
Building materials
Arabic language
Computer Programming-Visual Basic
Calculus-4
Open Channels
Concrete Technology
Engineering Surveying-2
Soil Physics
Strength of Materials
Construction of Water Resources Projects
Engineering Hydrology
Soil Mechanics
Environmental Engineering
Engineering Statistics
Theory of Structures
Engineering Management
Hydraulic Machines
Ground Water Hydrology
Foundation Engineering
Hydraulic Structures
Engineering Numerical Methods
Water Quality Control
Sanitary Engineering
Reinforced Concrete Design
Engineering Optimization
Irrigation Engineering
Design of Dams
Leadership Skills & Engineering Ethics
Design & Evaluation of on-Farm Irrigation System
Methods of Construction and Estimation
Drainage Engineering
Safety Operation of Dams
Water Resources Planning and Management
Senior Design-I
Senior Design-II

2.3.1.5 Subject Areas

Fig. 3.1: Curriculum Pre-requisites

The Dams and Water Resources Engineering program produces graduates who are prepared to enter the practice of water Resources engineering utilizing three major components of the program: (1) foundation in the mathematical and basic sciences, (2) engineering topics in both Analysis and design applications, and (3) general education in the humanities, languages, and ethics; as can be seen in Table 3.1, Table 3.3, and Fig.

2.3.1.6 Major Design Experience

In the few last years, students take Senior Capstone Design, which is the final major design course. In this course, students learn how to apply the basic engineering science and design principles to formulate a design problem, and then follow recommended process to complete the design project. Students are required to demonstrate their ability to use the knowledge of math, basic science, and Engineering design courses for the whole undergraduate curriculum. Some professional components if not taught in other courses, such as life- long learning to keep knowledge up to date, are covered in this course. A poster presentation is required by the end of each course.

For the capstone design experience, the students are typically in teams of 2-4 people. The evaluation includes the project evaluation in three parts (overall technical content, presentation, and response to questions), assessment of the related Graduate Outcomes and comment. The DWE department designed a special following up system to choose the projects, assign it to the students and follow their performance along with their supervisor. A Capstone project handbook is specifically written for this purpose.

2.3.1.7 Teaching and Learning Strategies

Teaching strategies varies from course subject to another. The traditional form of teaching in DWE program often involves lectures being given to large groups of students, accompanied by tutorials and workshops, with some independent study. However, there are several other modes of delivery that can also be very effective such as the flipped classroom and problem-based learning.

For the required courses, only, teaching materials (textbook, the regular course syllabus, course outlines, and list of assignments, etc.), and student work samples of all the assignments (homework, quizzes, exams, lab reports, and design projects, etc.) will be available for review at the time of visit.

2.3.2 Relating Courses Learning Outcomes to GOs

In DWE program, there is a special form to be updated on yearly basis by the instructor. This form is called CS and it must be submitted by the start of the academic year. The form describes every aspect of the course including the course learning outcomes (CLOs) and these are linked to the GOs by the instructor him/her-self. Then it is checked by the scientific committee and the Scientific Department Handbook is updated accordingly.

Table 3.3 illustrates the linking map between the courses and the GOs.

2.4 Criterion 4: Continuous Improvement

A Continuous Improvement Cycle is an ongoing process of PA with the purpose of assessing the academic program, improving its components, and making decisions about its future continuity and sustainability.

The Department of Dams and Water Resources Engineering at University of Anbar is committed to deliver high quality engineering education. Continuous improvement is essential to maintain and improve the institutional quality. In order to achieve the institutional effectiveness vision, the College of Engineering adopted ABET criteria for its academic accreditation. The goal of the program is also to fulfil the Iraqi National Accreditation Criteria (INAC) developed by the Iraqi Accreditation Council (ICAEE). The program regularly uses appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations are systematically utilized as input for the continuous improvement of the program. Other available information may also be used to assist in the continuous improvement of the program. Effective assessment uses relevant direct, indirect, quantitative, and qualitative measures as appropriate to the outcome being measured. Appropriate sampling methods are also used as part of an assessment process.

2.4.1 Achievement of Graduate outcomes

2.4.1.1 Assessment Processes

Assessment is one or more processes that identify, collect, and prepare data to evaluate the attainment of student outcomes. Effective assessment uses relevant direct, indirect, quantitative, and qualitative measures as appropriate to the outcome being measured. Appropriate sampling methods may be used as part of an assessment process. Evaluation on the other hand is one or more processes for interpreting the data and evidence accumulated through assessment processes. Evaluation determines the extent to which student outcomes are being attained. Evaluation results in decisions and actions regarding program improvement.

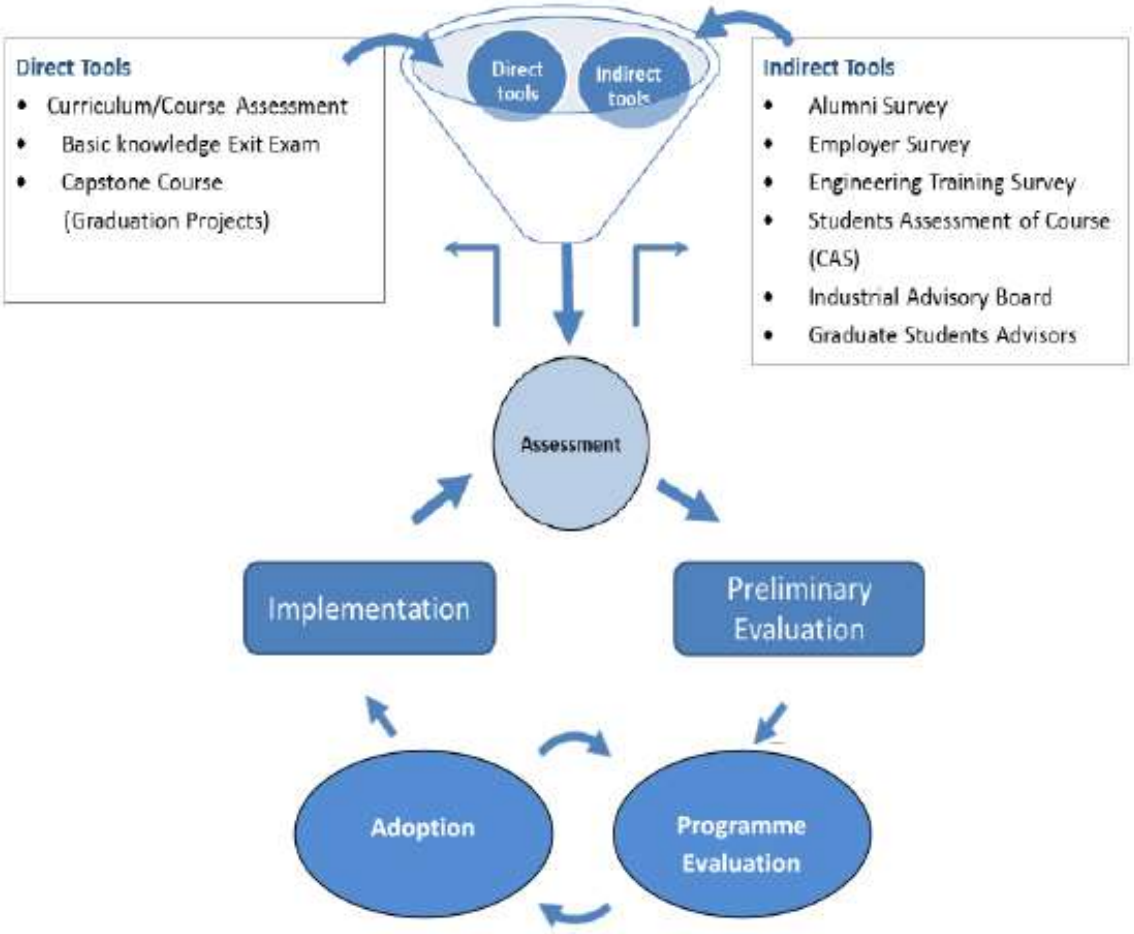


Fig. 4.1: Assessment and evaluation of SOs

Graduate Outcomes

The Bachelor of Science in Dams and Water Resources Engineering Program employs several tools to assess the achievement of the graduate Outcomes (GOs). The system used to assess the achievement of the student outcomes relies on obtaining feedback from the program constituents using a variety of tools. This system consists of two assessment levels:

1. Course-level assessment
2. Program-level assessment

The elements of the course and program assessment are summarized in Table 4.1 and Table 4.2, respectively.

Table 4.1: Elements of the Course Level Assessment

Direct Course Level Assessment	
Objectives	Assess the achievement of the course learning outcomes (CLOs)
Person in Charge	Course Instructor and Course Coordinator
Coordination	Instructor/Coordinator>>>Assessment Coordinator in Department >>> Chairman/Accreditation Committee >>> Department Council of Faculty Members.
Assessment tools/indicators	Level of achievement of course learning outcomes from instructor point of view. Level of achievement of course learning outcomes from students' point of view. Degree of coverage of course contents from instructor point of view. Relation of individual assessment questions/items to course learning outcomes. Achievement of course learning outcomes based on students' grades on assessment items. Identification of issues of requiring improvement. Proposals for improvements based on assessment results. Students' evaluation of courses and instructors.
Frequency	Every time the course is taught.
Outcome	Course Learning Outcomes Assessment Report.

Table 4.2: Elements of the Program Level Assessment

Program Level Assessment	
Objectives	Assess the achievement of the student outcomes (SOs).
Person in charge	Assessment Coordinator in Department/Accreditation Committee/ Department Chairman
Coordination	Assessment Coordinator in Department Chairman/Accreditation Committee/Department Council of Faculty members
Assessment tools	1. Coverage of program learning outcomes based on course learning outcomes. 2. Achievement of program learning outcomes based on course learning outcomes assessment results. 3. Alumni survey. 4. Employers' survey. 5. Exit survey of graduating students. 6. Feedback from visiting/invited experts, including reports of visiting

	accreditation teams. 7. Feedback from department advisory board. 8. Students' internship/training survey by employers.
Frequency	Varies from every year (i.e., Exit Surveys) to every few years (i.e., Employer Survey).
Outcome	Assessment Reports as Appropriate

Graduate Outcome (GO) Assessment Results and Analysis

The following sub-sections provide a summary of the feedback obtained using the various assessment tools discussed previously.

In analyzing the results, the relationships of the questions in the different surveys to the GOs were established then the level of achievement of the GOs were based on the number of constituents responding, the average assessment they assigned, and the weights assigned to each question. The assessment results were standardized to a scale ranging from 0 to 4, with a threshold of 2.0 adopted as the minimum acceptable achievement level in terms of meeting any of the GOs. Failing to achieve the minimum acceptable achievement level of 2.0 is of major concern and a major trigger for reassessing the teaching elements of the course and introducing the necessary improvements.

GOs Assessment Based on Direct Assessment of the Courses Learning Outcomes (CLOs)

The assessment coordinator of the DWE compiles the assessment results for all courses taught throughout the academic year. Using the data in the individual course assessment reports, the level of achievement of GOs are estimated for each of the following seven indicators:

Indicator 1. Level of achievement of CLOs based on students' evaluation of CLOs achievement. The indicated results are based on a students' survey that is conducted at the end of the semester to determine the level of achievement of course learning outcomes from the students' point of view.

Indicator 2. Level of achievement of course learning outcomes from the instructor's point of view.

Indicator 3. Direct assessment results, which reflect the achievement of the CLOs based on students' grades on the various assessment items. The assessment items can be as detailed as the individual questions on the exams and assignments. These assessment results are calculated based on students' achievements on each assessment item that addresses each of the CLOs.

Indicator 4. Relative degree of addressing outcomes in the various assessment items, which is based on linking the individual questions on the various assessments to the CLOs.

Indicator 5. Degree of coverage of course contents under each CLO from the instructor's point of view.

Indicator 6. Average of the above five indicators.

Indicator 7. Average of students' grades in the course.

The degrees of achievement of the GOs based on these indicators are presented in Fig. 4.2 to Fig. 4.5. These indicators provide direct and indirect measures of the achievement of the CLOs based on the various assessment items in the course. Course Assessment Program was used in the evolution process. The indicators that used for the evaluation are as below:

CAF: Course design (course assessment by the faculty) which represents an agreement between the faculty and the department and the student as well.

Score: The achievement of the student by using an evaluation tool such as exam, homework, projects, etc.

PR: Passing ratio of a specific student outcome

The assessment results are documented and maintained in the Annual Program Assessment Report.

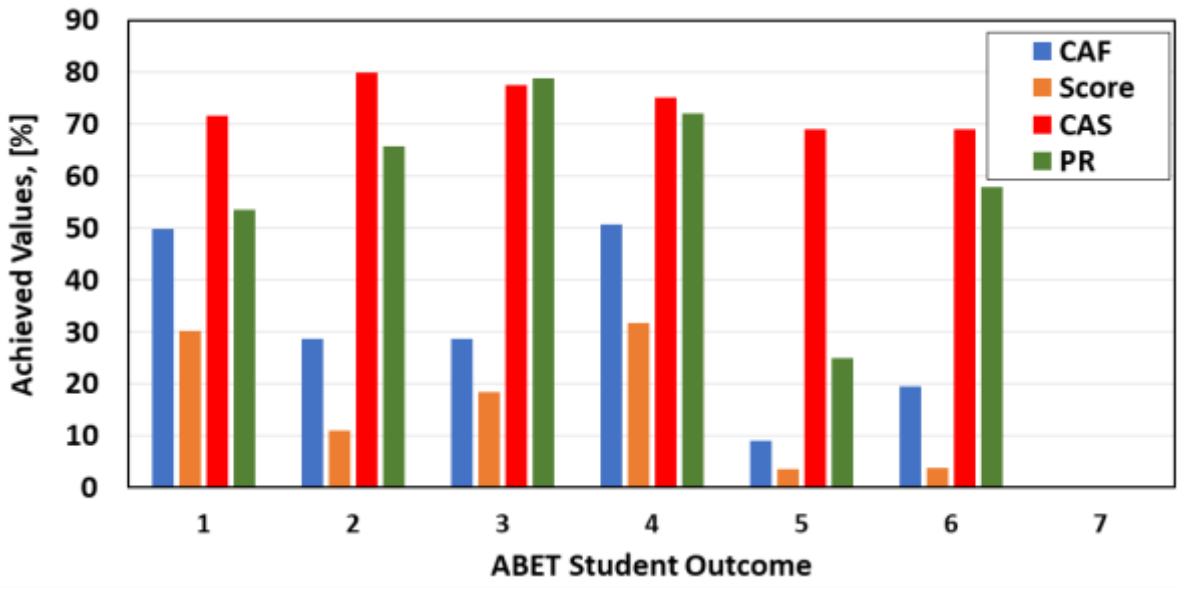


Fig. 4.2: Assessment of GOs using different indicators- First Year

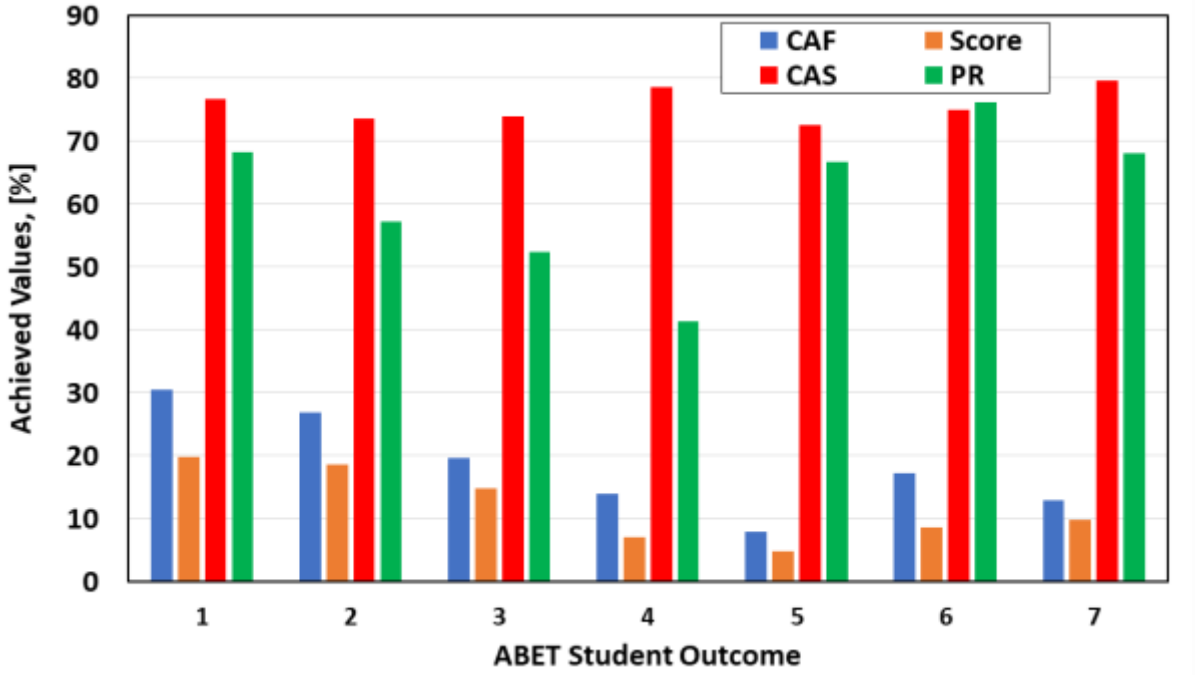


Fig. 4.3: Assessment of GOs using different indicators- Second Year

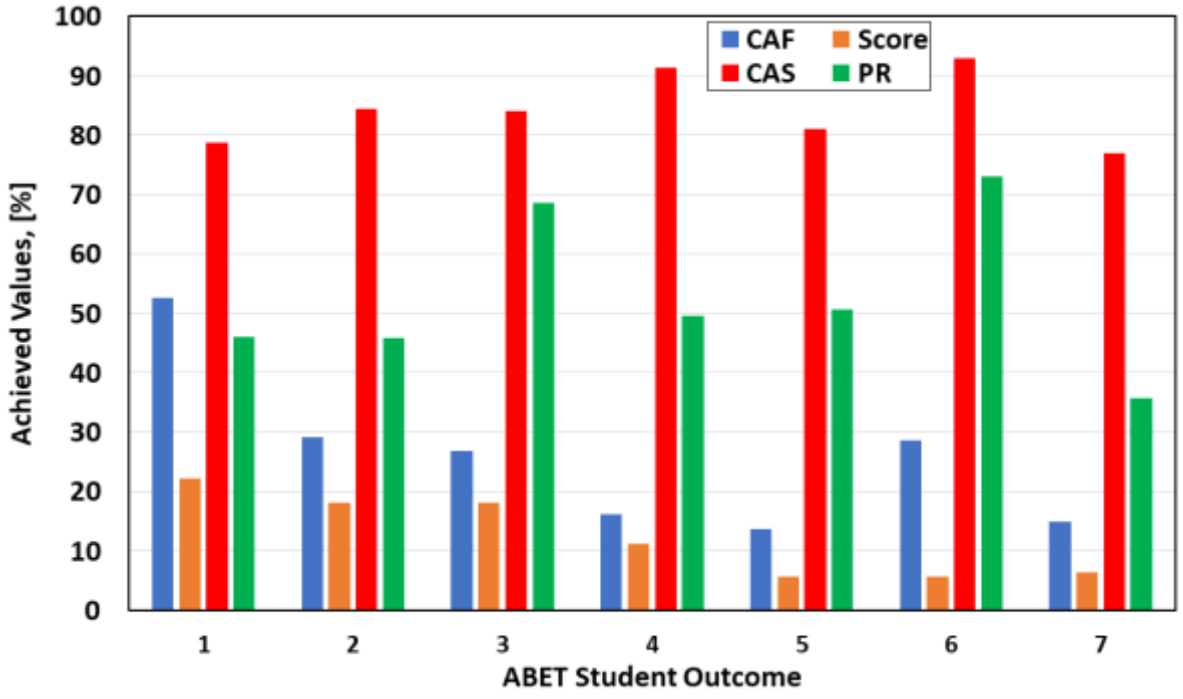


Fig. 4.4: Assessment of GOs using different indicators- Third Year

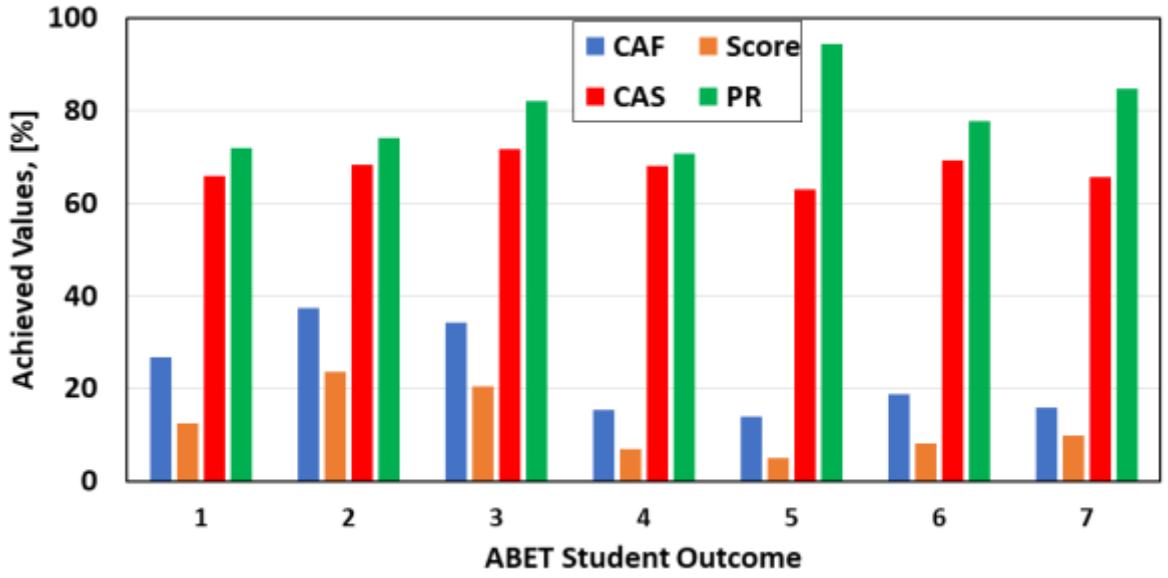


Fig. 4.5: Assessment of GOs using different indicators- Forth Year

2.4.2 Actions for Continuous Improvement

Regardless of the fact that the Department of Dams and Water Resources Engineering has been pursuing ABET accreditation for several years and the fact that overwhelming number of workshops and training courses have been initiated, this is the first year the ICAEE standards are adopted, mapped with course learning outcomes and ABET student outcomes. Taking into consideration also that it usually takes one year for assessment and evaluation and another year to implement the action required, this year was an assessment/Evaluation year and the results can be seen in Figs. 4.2 – 4.5.
The department council adopted 50% as the minimum average score in each GO and from the figure it can clearly be seen that although the course assessment by student (CAS) and the passing ratios (PR) are typically within the acceptable limits, the score and course assessment by faculty (CAF) are not. This typical conclusion varied on a wide range from stage to another.

For the 1st year class, although the PR and CAS are between 60 and 80%, we can see that the scores are low and that CAF is also under expectations.
For the 2nd year class, 3rd year class and 4th year class, the same phenomenon replicate itself with more extreme variations.

Some of the results might be justified by the fact that blended teaching is relatively new to our educational system but this shortage in scores and CAF required a root solution and the department council decided to increase the number of faculty training courses/workshops, take more care of the laboratories and maintain testing devices and instruments to acquire the GLP standards. In addition to that, more efforts are done to

increase the number of laptops in the computer lab and give more access to the library resources.
One distinguished result was getting a fund to train 19 staff members from the College of Engineering/ University of Anbar, among which 5 faculty are from DWE department. The training is for a whole year given by a specialized team from the University of Purdue, and it is pivots around Student Centered Learning and Blended Teaching. Phase-I of the training will be finished by April 2021 and attendees will be granted a special certificate.

In addition to that, course delivery modes are going to be reviewed and necessary modifications shall be implemented next academic year to take into account what have we learnt from our blended teaching this year and the improvements resulting from the training courses.

2.5 Criterion 5: Students

2.5.1 Student Admission

Procedures for student admission and registration in the college:

First: - The admission of the student to the college and specifying the scientific department are to be centralized by the Ministry of Higher Education and Scientific Research - Directorate of Studies, Planning and Follow-up - Central Admission. this is for all admission channels (central - 10% first over Iraqi institutes - 5% first on technical education - holders of an equivalent degrees) and according to what qualifies, the attained average and the student's desire to choose the college and department mentioned in the application form through the electronic portal of the Directorate of Studies, Planning and Follow-up based on the admission plan sent by the college, specifies the number of students who can be accepted in each scientific department.
Second: - Accepted student in the college must register electronically using a prepared registration form of new students by the presidency of the university - Department of Registration and Student Affairs in order to, record his personal information in the 'My University system' to obtain university identification number of all students admitted to University of Anbar and then create an electronic account for each student, the student also will be provided with a password to enter the university electronic systems.
Third: - The student must come to the new student reception committee formed in the college within a two-week period from the date of announcing the results of the central admission in Iraqi universities for the purpose of completing the personal file for admission to the college, handing over the required certificates and personal documents, medical examination, registration fees, and also conducting a personal interview to verify the student's physical and health qualifications according to the university valid instructions, completing the form for obtaining university identity and submission of a written commitment to preserve the college's property and to apply all instructions and laws that must be followed during the study period.
Fourth: - The college issues administrative orders for enrolled students in the college and informs the scientific departments therein, the student must start attendance within a period of two weeks from the date of issuance of the administrative order, otherwise considered failed due to absence for the current academic year, according to item-9 of the examination instructions, 134 of the year 2000 issued by the Ministry of Higher Education and Scientific Research.

Conditions for student admission to the college

1- Must be Iraqi nationality.
2- Must hold the Iraqi secondary study certificate for one of the two branches (biological or applied) or a certificate equivalent to it, supported by the approval of the General Directorate of Education in the province.
3- Must be successful in the medical examination, according to the applicable health-fitness conditions based on the valid Health Fitness Regulation No. 5 of 1992.
4- Full-time study, it is not permissible to combine study and job.

5- Must be graduated of the current or previous academic year who did not have central admission or any other admission.
6- The age of the applicant to study at the college must not be more than (24) years old.

2.5.2 Student Performance and Progress

The academic system, the length of study in the college and the permitted years of wastage

1- The academic system followed in the college, is the semester system consisting of two semesters. Each academic term lasting 15 weeks.
2- The duration of study in the college is four years.
3- For the student to succeed to a higher stage of study, he/she is to succeed in the academic subjects of the stage, or they may fail in two academic subjects. In this case, he/she is considered successful by crossing to a higher stage. The student must succeed with the transit courses in the following academic year. In the case of failure, his/her enrolment in the college is permanently written off.
4- The student has the right to amend his/her candidacy for admission to another college in the event that he/she does not wish to complete the study in the college, provided that he/she is deferred or failed in the current academic year. The deferred or failed academic year, is not counted within the time limit allowed for the student.
5- The student may postpone his/her studies for one year after presenting reasons that are convincing by the College Council. The President of the University, based on the recommendation of the College Council, may postpone the student's study for a second year. The Minister of Higher Education and Scientific Research or whoever authorizes him and based on the recommendation of the University Council and for legitimate reasons that he/she is convinced to postpone the student's study for a third academic year, provided that the student submits a request for postponement in all cases before (30) thirty days at least from the start of the final exam.
6- A student may fail two years in the college, provided that they are not consecutive.

Instructions and regulations that the student must adhere to during the study

First: Examination Instructions 134 for the year 2000 and their amendments, the most important of which are:

A. clause (6): The minimum passing score that the student must obtain in order to succeed in any academic subject is (50%) fifty percent.
B. Clause (9): A student is considered to have failed in any academic course if his/her absence exceeds 10% of the hours prescribed for that course without a

legitimate excuse and 15% with a legitimate excuse approved by the College Council.

C. Clause (12): A student has no right to postpone the second attempt of final exams in any way.

D. Clause (19): A student's relationship with the college ends in one of the following two cases:

1. If he/she fails two consecutive years in his/her class.
2. If the student exceeds the total period prescribed for study in his/her major and half of this period (i.e., six years) and the years of postponement and non-failure are not counted as part of that.

E. clause (20): If it is proven that the student cheated or attempted to cheat in any of the daily, weekly, monthly, quarterly, or final exams, he/she shall be considered as failing in all courses for that year, and if this is repeated, he/she shall be dismissed from the faculty and permanently closing his/her records.

Second: Instructions for student discipline in the institutions of the Ministry of Higher Education and Scientific Research No. 160 of year 2007 amended, the most important of which are:

A. The student shall abide by the internal laws and regulations, instructions and orders issued by the Ministry of Higher Education and Scientific Research and the University.

B. Not to prejudice religious beliefs, national unity, or national sentiments by bad or intentionally provoking sectarian or ethnic strife, by word or deed.

C. Not to harm the reputation of the ministry or its institutions by word or deed, inside and outside it.

D. Avoiding everything that is inconsistent with university behaviour, with high discipline and respect for the administration, faculty and staff, collegial relations and cooperation with students.

E. Preserving the academic supplies and the university and college property.

F. Adherence to the uniform prescribed for students by the university.

The Evaluation process and assessment measures may be summarized as follows:

Table 5.1: The course evaluation process

Course Type	Progress Exam-1	Progress Exam-2	Activities	Lab	Final Exam	Final Grade
Lab. Courses	15%	15%%	10%	10%	50%	100%
Regular Courses	15%	15%%	10%	-	40%	100%

Engineering Drawing						

One exception to this is the Capstone project where the course work is going to be 50% and the dissertation viva will be 50%.
Students who fail or were not able to attend the final examination are allowed to take a second attempt exam. If the student fails to get 50% in the last attempt, he/she will be considered as (FAIL) in that course. The student is allowed to transfer/load two failed courses to the next year level, but if he/she failed in more than two courses, the student must repeat the academic year. Fail to succeed in two successive years, the student will be dismissed from the university.

2.5.3 Students Transfer

Transfer and scientific set-off standards

First: - Transfer procedures

1- Transfer procedures must start from the student's original college exclusively. The letter of non-objection to the student's transfer from the mother college to the corresponding one should provide the study materials that the student passed and the number of courses credit units are attached for the purpose of conducting the scientific set-off. All procedures should be done electronically using the website prepared by the Ministry of Higher Education and Scientific Research.
2- Only successful students (from the first stage to the second and from the second stage to the third) are entitled to transfer.
3- The transfer order for the student from his/her original college is issued after the issuance of a letter of no-objection for the transfer from the college to which he/she wants to transfer to. It is not permissible to register the student in the college to be transferred till the transfer order and his/her going away from the original college are issued.
4- Top students in the departments (Physics, Life Physics and Applied Sciences) are entitled to transfer to the college and be accepted into the electrical engineering department and exclusively through the Ministry of Higher Education and Scientific Research.
5- Students returning to Iraq, who continue to study in the morning shift outside Iraq and studying in one of the recognized universities have the right to transfer to the college provided that their pass rate of students is within the minimum limits for admission to the college and must be through the ministry exclusively.
6- Faculty members' sons/daughters are entitled to transfer to universities in the governorate of their residence in the academic year in which they are admitted, provided that the difference in their pass rate does not exceed the minimum for admission to the college by only (5) five degrees.

Second: Scientific Set-Off

A scientific set-off/clearing is intended to make a comparison between the academic courses that the student studied in the original college and in the college to be transferred to. It is the specialty of the scientific committee formed in the department exclusively according to the following:

1- Admission of the student to the same academic stage. If the academic courses are identical between the two colleges (transferred to and from) or differ in one or two courses with the fact that the academic system is identical.
2- If the difference in academic courses between the two colleges is more than two methodological courses, then the student has the choice between getting back him/her to a lower stage of study or cancelling his/his transfer to the college, in the event that he/she chooses to transfer to a lower stage of study, the academic year is not counted within the total time limit allowed for the student.
3- The subjects (human rights, democracy, computer, Arabic language, English language) are not included in the scientific clearing account and the student will be demanded to them during his/her study years.

2.5.4 Students Advising and Extracurricular Activities

Typically, students spend only 30% of their waking hours inside of the college classroom, students have several options for spending their out-of-classroom time. Students involved in extracurricular activities report developing higher confidence, intimacy, mature interpersonal relationships, and purpose.
Involvement in extracurricular activities provides college students with opportunities to meet and connect with other students, explore areas of interest, and contribute to the campus and community. With so many choices available and the pressure to succeed seemingly increasing, students can easily become overwhelmed with their involvement outside of the classroom to the extent that it compromises their academic success.

the necessary organizational procedures were put in place to meet the students through holding meetings under the supervision of the educational supervisors in the scientific department and all the information for the purpose of guidance and educational guidance as follows:

- The advising unit at the College of Engineering contact the department and provide file for the new students.
- At the department level, there is an advising committee which distributes the students among faculty staff.
- For each student a file is assigned. The file contains all required information pertinent to the student regarding academic progress, behaviour, and attitude.
- The adviser meets the student on regular basis and on demand to monitor his/her progress, solve any problems the student is facing, and advise him/her in any curricular/ extracurricular matters.
- All these procedures are well documented and reserved at the department.

2.5.5 Graduation Requirements

The requirements for graduation from the college and the mechanism for calculating the overall average and round of the graduation student:

First: Graduation requirements

1- For the student to graduate from the college, the student must pass all the academic subjects that are the requirements of the college and the scientific department.
2- Completion of summer training (summer training means practical application in actual fields of work in government, public, and private sectors that the student practices in order to live part of the practical life of his/her scientific specialization).

3- The student's acquittal from the property of the university, college, and scientific department.

Second: The mechanism for calculating the student's graduation rate and the attempt he/she graduated from

1- The overall college graduation average is calculated by multiplying the student's rate in each academic year by the percentage indicated against that, the total academic years is the overall average of the student's graduation.
    - The first academic year (10%) is ten percent.
    - The second academic year (20%) is twenty percent.
    - The third academic year (30%) is thirty percent.
    - The fourth academic year (40%) is forty percent.
2- The number of attempts that the student has completed depends on the graduation requirements to determine the attempt of graduation from the college (first or second). Therefore, the student is considered a graduate of the second round in the event that he/she passes the scientific clearing materials or transit materials in the second attempt even if he/she has successfully passed the courses of the final stage of the first attempt.

2.6 Criterion 6: Faculty

2.6.1 Faculty Qualification

Qualified and competent faculty members are key to the success of the Dams and water Resources Engineering Department. Detailed qualifications of the faculty members can be found in the following university of Anbar website: (https://www.uoanbar.edu.iq/Staff_Form.php). The faculty members teach courses, conduct research in their specialty areas, and mentor and supervise students at both undergraduate and graduate levels of the offered programs. The faculty specialization and expertise cover the following Dams and Water Resources Engineering disciplines:

1. Water Resources Engineering
2. Structural Engineering
3. Concrete Design and Concrete Technology
4. Geotechnical Engineering
5. Construction Management Engineering
6. Environmental Engineering
7. Geomatic Engineering

In Water Resources Engineering, the Dams and Water Resources Department has four permanent faculty members: Drs. Sadeq Oleiwi, Ammar Hatem, Majeed Matar, Uday Hatem and Safaa Ahmed. The professional experience of the faculty in this major includes water flow, dams design, water management, irrigation systems, drainage systems, GIS applications in water resources.

In Structural Engineering, the Dams and Water Resources Department has five faculty members: Drs. Ayad Abdelhamid, Zaid Al-Azzawi, Ahmed Tareq, Muhned Haqi and Mohammed Tarrad. The faculty expertise in this area such as construction technology, durability of concrete, sustainable concrete, steel structures, structural mechanics, dynamics and vibration of structures, soil-structure interaction, design of RC structures and all related issues to structural systems.

In Concrete and Design Technology, the Dams and Water Resources Department has five permanent faculty members: Drs. Abdulkader Ismail, Ayad Saeed, Ghassan Subhi, Aseel Madallah and Ammar Ahmed. The faculty in this area provide expertise in

structural optimization and reliability, structural application of new composite material, nanocomposite materials and structures, behavior of building materials used in marine structures.

Geotechnical Engineering, the Dams and Water Resources Department has three faculty members Drs: Nabeel Shakir, Rafid Saadoon and Ahmed Ameen. The faculty expertise in this area includes soil mechanics, soil characterization, soil improvement, seepage and water flow, and deep foundations.

In construction management, Dams and Water Resources Department has three permanent faculty members Dr. Jumaa A Hemed, Dr Mohammed Lattef , Lec ASeel H Al Jader, the faculty professional and research experience in these areas span- in project management, construction management contracts, risk management in construction projects, estimating quantities for various projects, economic feasibility studies, MS Project applications, value engineering, earned value, BIM applications in projects & project control

In Environmental Engineering, the Dams and Water Resources Department has four faculty members Drs: Arkan Dhari , Ibtihal Ahmed , Majeed Mattar and Mohammed Freeh . The faculty expertise in this area includes Environmental engineering, the development of processes and infrastructure for the supply of water, the disposal of waste, and the control of pollution of all kinds. These endeavors protect public health by preventing disease transmission, and they preserve the quality of the environment by averting the contamination and degradation of air, water, and land resources.

In Geomatic Engineering, the Dams and Water Resources Department has one faculty member Dr: Khamis Nabaa. The faculty expertise in this area includes determination of position of points, volume of the embankment, and the elevation of points. Moreover, in this area include remote sensing technologies and geographic information system.

Credentials and experience of the faculty are presented in Table 6.1 and detailed faculty resumes are included in Appendix B. As shown in Table 6.1, the faculty members hold international credentials and have gained industry and academic experience through their work with both private sector and universities. In addition, they hold active licenses and registration with professional organizations both locally and abroad.

Faculty Member Name	Degree Earned, Field	Specific Role	Appropriate	Year Of Experience	Qualification	Level Of Activity H, M, Or L

Table 6.1: Faculty Qualifications

					Govt./Ind. Practice	Teaching	This Institution		Professional Organizations	Professional Development	Consulting/Work In Industry
Jumaa Awad Hemed	Ph.D/ Const. manag./2015	ASP	PS	FT	9	24	15	Eng. Assoc. of Iraq	M	H	H
Abdulkader Ismaail Abdulwahab	Ph.D/Build. Mat. Eng./2005	P	PS	FT	7	0	20	Eng. Assoc. of Iraq	M	H	H
Sadiq E. Sulaiman	Ph.D/Water Res./2009	ASP	PS	FT	0	20	20	Eng. Assoc. of Iraq	M	H	H
Amar H. Kamel	Ph.D/Water Res./2008	ASP	PS	FT	0	20	20	Eng. Assoc. of Iraq	M	H	H
Khamis Naba Sayl	Ph.D/Eng. Survey./2018	ASP	PS	FT	9	16	16	Eng. Assoc. of Iraq	M	H	H
Majeed Mattar Ramal	MsC/Envir. Eng./2002	ASP	PS	FT	0	15	15	Eng. Assoc. of Iraq	M	H	H
Zaid M. Al-Azzawi	Ph.D/Struc. Eng./2016	L	PS	FT	0	11	11	Eng. Assoc. of Iraq	M	H	H
Ahmed Tareq Noaman	Ph.D/Const. Tech./2017	L	PS	FT	0	15	15	Eng. Assoc. of Iraq	M	H	H
Nabeel S. Mahmood	Ph.D/Geot. Eng./2018	L	PS	FT	2	15	15	Eng. Assoc. of Iraq	M	H	H
Ayad S. Aadi	Ph.D/Conc. Des.&Tech./2017	L	PS	FT	23	14	14	Eng. Assoc. of Iraq	M	H	H
Ghassan Subhi Jameel	Ph.D/Conc. Des.&Tech./2017	L	PS	FT	0	17	17	Eng. Assoc. of Iraq	M	H	H
Aseel M. Mohammed	Ph.D/ Conc. Des.&Tech./2017	L	PS	FT	0	14	14	Eng. Assoc. of Iraq	M	H	H
Arkan Dhari Jalal	Ph.D/Envir. Eng./2018	L	PS	FT	0	15	15	Eng. Assoc. of Iraq	M	H	H
Aseel Hossam ALdin Abdulla	MsC/Const. Proj. Manag./2000	ASL	PS	FT	14	15	12	Eng. Assoc. of Iraq	M	H	H
Ahmed Amin Jubair	MsC/Geot. Eng./2000	ASL	PS	FT	7	15	18	Eng. Assoc. of Iraq	M	H	H

Ammar Ahmed Hammadi	MsC/Conc. Des.&Tech./2012	ASL	PS	FT	0	3	3	Eng. Assoc. of Iraq	M	H	H
Safaa Ahmed Ibrahim	MsC/Dams&Wat. Res./2015	ASL	PS	FT	0	3	3	Eng. Assoc. of Iraq	M	H	H
Mohammed Tarrad Nawar	MsC/Struc. Eng./2009	ASL	PS	FT	0	10	10	Eng. Assoc. of Iraq	M	H	H
Ibtihal Ahmed Mawlood	Ph.D/Envir. Eng./2018	L	PS	FT	0	20	20	Eng. Assoc. of Iraq	M	H	H
Uday Hatem Abdulhameed	MsC/Wat. Res./2001	L	PS	FT	0	21	21	Eng. Assoc. of Iraq	M	H	H
Mohammed Freeh Sahab	MsC/Envir. Eng./2017	ASL	PS	FT	0	13	13	Eng. Assoc. of Iraq	M	H	H
Rafid Saadoon Rashid	Ph.D/Geot.&G.Wat./2016	L	PS	FT	0	13	13	Eng. Assoc. of Iraq	M	H	H
Majid Hadi Talal	MsC//2004	L	PS	FT	0	16	16	-	M	H	H
Muhannad Haqi Ismail	Ph.D/Struc. Eng./2017	L	PS	FT	0	9	9	Eng. Assoc. of Iraq	M	H	H

[1] Code: P = Professor, ASP = Assistant Professor, L = Lecturer, ASL = Assistant Lecturer and O = Other.

[2] Code: PS = Permanent Staff, TS = Temporary Staff.

[3] FT = Full Time Faculty or PT = Part Time Faculty, at the institution.

[4] The level of activity, H = high, M= Medium or L=Low.

2.6.2 Faculty Workload

The normal teaching assignment for a full-time faculty in the professorial ranks is 12 credits per semester (including senior design supervision load), and 15 credits per semester for lecturers. The faculty teaching load typically involves preparation for two courses. One of the two courses has one section and the other has two sections making total of nine credits in class teaching. In addition, each faculty member supervises about two groups of senior design project, which is equivalent to two to three credit hours per semester.

The teaching load of faculty holding administrative duties, including Chairs of Departments, Deans and Vice-Deans of Colleges, directors of administrative units, coordinators of programs, and others who are assigned special duties by the Chancellor are reduced by 3 to 6 credit hours, depending on the position. Faculty members are generally assigned teaching assistants to assist in grading and tutoring. The faculty

workload summary is provided in Table 6.2. It includes information in terms of workload expectations and requirements for all faculty members.

Table 6.2: Faculty Workload Summary

Faculty Member Name	FT or PT	Classes Taught (Course No./Credit Hrs.) Term and Year	Program Activity Distribution			% Of Time Devoted To The Program
			Teaching	Research Or Scholarship	Other	
Abdulkader Ismail Abdulwahab	FT	Design Of Reinforced Concrete Hydraulic Structures.4hrs.2,2019	40%	50%	10%	90%
Sadiq E. Sulaiman	FT	Engineering Hydroology.3hrs.1,2019	40%	50%	10%	90%
Amar H. Kamel	FT	Design Of Dams.4hrs.1,2019 Design Of Reinforced Concrete Hydraulic Structures.4hrs.2,2019	40%	50%	10%	90%
Khamis Naba Sayl	Ft	Engineering Surveying-1.3hrs.1,2019 Engineering Surveying-2.2hrs.2,2019	40%	50%	10%	90%
Majeed Mattar Ramal	Ft	Chemistry. 3hrs.1,2019 Water Quality Control. 3hrs.2,2019	40%	50%	10%	90%
Zaid M. Al-Azzawi	Ft	Engineering Numerical Methods.3hrs.2,2019	40%	50%	10%	90%
Ahmed Tareq Noaman	Ft	Dynamics.4hrs.1.2019 Steel Structure.4hrs.2,2019	40%	50%	10%	90%
Nabeel S. Mahmood	FT	Soil Physics.2hrs.2,2019 Foundation Engineering1.4hrs.1,2019	40%	50%	10%	90%
Ayad S. Aadi	FT	Concrete Technology .4hrs.2,2019	40%	50%	10%	90%
Ghassan Subhi Jameel	Ft	Strength Of Materials.3hrs.2,2019 Dynamics (Tut.).1hrs.1,2019	40%	50%	10%	90%

Aseel M. Mohammed	FT	Building Materials Technology.2hrs.1,2019 Construction For Water Resources Projects.2hrs.2,2019	40%	50%	10%	90%
Arkan Dhari Jalal	Ft	English Language-2.3hrs.2,2019 Sanitary & Environmental Engineering.4hrs.1,2019	40%	50%	10%	90%
Aseel Hossam Aldin Abdulla	FT	Engineering Management & Economy.5hrs.2,2019	40%	50%	10%	90%
Ahmed Amin Jubair	Ft	Soil Mechanics1.3hrs.1,2019 Economics Of Water Resources2.2hrs.2,2019	40%	50%	10%	90%
Ammar Ahmed Hammadi	Ft	Theory Of Structure (Tut.).3hrs.2,2019 Engineering Mechanic-Static.1hr.2,2019	40%	50%	10%	90%
Safaa Ahmed Ibrahim	Ft	Hydraulic Mechanics.4hrs.1,2019 Computer Science (Tut.).2hrs.1,2019	40%	50%	10%	90%
Mohammed Tarrad Nawar	Ft	Strength Of Materials (Tut.).2hrs.1,2019 Design Of Reinforced Concrete Hydraulic Structures (Tut.).2hrs.2,2019	40%	50%	10%	90%
Ibtihal Ahmed Mawlood	Ft	Engineering Drawing.4hrs.2,2019	40%	50%	10%	90%
Uday Hatem Abdulhameed	Ft	Fluid Mechanics.3hrs.1,2019 Hydraulic Structures.3hrs.2,2019	40%	50%	10%	90%
Mohammed Freeh Sahab	Ft	Irrigation Engineering.4hrs.1,2019 Soil Physics (Lab.).2hrs.2,2019	40%	50%	10%	90%
Rafid Saadoon Rashid	Ft	Ground Water .4hrs.1,2019 Design Of Dams((Tut.).1hr.1,2019	40%	50%	10%	90%
Muhannad Haqi Ismail	Ft	Calculus3.4hrs.1,2019 Calculus4.4hrs.2,2019	40%	50%	10%	90%

FT = Full Time Faculty or PT = Part Time Faculty, at the institution.
For the academic year for which the Self-Assessment Report is being prepared.
Program activity distribution should be in percent of effort in the program and should total 100%.
Indicate sabbatical leave, etc., under "Other." 5. Out of the total time employed at the institution.

2.6.3 Faculty Size

The Dams and Water Resources Department has adequate faculty members to cover the teaching load and meet the teaching requirements of the various core areas in Dams and Water Resources Engineering. The Department includes 24 full time faculty members. The Dams and Water Resources Department is keen on attracting high quality experienced professionals, educated from the best universities. The faculty hiring and retention in the Department is consistent with the workforce retention trends in the Iraq as a whole. Most of the faculty members in the Department were educated in the Iraq, Gulf, UK, USA, Malaysia, and Turkey.

Several factors define the Department's needs and allocation in terms of number of faculty. Some of the factors listed below are common to all universities and some are unique to the University of Anbar and similar institutions:

- Numbers of students enrolled.
- Student intake per semester.
- Areas of focus in curricula.
- Strategic focus of Department.
- Flexibility of university in terms of faculty teaching loads.
- Delegation of faculty to special tasks and assignments.
- Minimum class size to open a section.
- Maximum class size to justify opening new sections.
- Faculty leave arrangements.
- Graduate program staffing requirements.

The University requires each department to assess its needs for faculty on an annual basis. At the beginning of each academic year, the department needs are assessed in view of projected teaching and other workload assignments. A series of forms known as the New Faculty Request Forms are completed by the department to indicate the existing faculty workloads, projected workloads, and department needs are filled-out in this regard. Requests for new positions are accompanied by request to advertise the positions in certain venues including the University Website, the Chronicle for Higher Education,

Academic Keys, and Research Gate. These requirements are discussed for review and assessment first within the department and college, and then sent to the Vice Chancellor for Academic Affairs for processing within the Senior University Administration system. Upon approval, the positions are advertised. Throughout the process, the Department enjoys full support from the senior university administration and so far, all requests for faculty positions have been supported as possible. In addition, the Dams and Water Resources Department analyzes students advising and other extracurricular activities requirements to ensure that enough faculty members are available to support these activities. Normally, students seek individual appointments with their assigned faculty advisor or visit their advisors during the office hours to review their progress and performance, and to discuss any issue or concern. Faculty members extend their availability in terms of office hours during intensive advising weeks.

2.6.4 Faculty Development

Faculty members are actively involved in professional development activities. The Dams and Water Resources Engineering Department supports and encourages faculty members to benefit from the various professional development activities offered by the University. The University provides the faculty members with opportunities and support to attend local and international conferences, seminars, forums, workshops, and training programs. Funds for these opportunities are allocated within the College budget. Additional faculty development opportunities are also provided by the Graduate Studies and Research in the form of research grants, establishment and support of interdisciplinary research groups, and research visits to reputable universities and research organizations to help faculty conduct part of their research and collaborate with other researchers.

The University also organizes workshops and forums geared toward enhancing educational process (teaching and learning), training on the use of IT in education, and educational assessment and continuous improvement, where local, regional and international experts are invited to share knowledge and experience with all faculties.

2.6.5 Faculty Authority and Responsibility

The University of Anbar has a well-established decision-making process that outlines the responsibilities and authorities of the faculty as per the University Bylaws. At the Department level, the faculty is primarily responsible for all curricular and academic affairs related to the program. This includes deciding on which courses are required

within the curricula and determining what new positions are needed, and in which areas. Important decisions related to the curriculum or hiring for vacant positions involve the formation of designated committees to analyze the requirements and to bring recommendations to the Department Council for deliberation and approval.

The development and implementation of the assessment, evaluation, and continuing improvement of the curricula and courses are primarily a faculty responsibility. Every course is assigned a coordinator (i.e., course coordinator) who is responsible for course updating, maintenance, and development. To improve or add new courses, faculty members and course coordinators follow a systematic procedure that is well-established.

The Dams and Water Resources Department has representatives on the College-level and University-level committees that coordinate academic and administrative activities across the DWE Department, the College of Engineering, and the University. This coordination includes identification of best practices, sharing of central data, and ensuring communication concerning basic logistics, procedures, and deadlines.

The University Bylaws specify the duties and responsibilities of faculty members. The main duties are the following:

1. **Teaching:** Teaching and curricular development are the main duties of faculty members at the University of Anbar.
2. **Research:** Faculty members are expected to actively engage in and lead relevant research, publish their research findings in recognized specialized journals, and present their results at regional and international forums and conferences.
3. **Academic Advising:** Faculty members are assigned academic advising duties to guide students through completing their graduation requirements, assist students with relevant academic issues during their studies, and to help them graduate from the University.
4. **Contribute to Administration:** All faculty members are expected to contribute to the development of the university and get actively involved in relevant committees and tasks at the Department, College and/or University levels.
5. **Community Service:** This entails serving the local community and the profession through providing services and leadership to fulfill their needs and contributing to their advancement.

Table 6-3 shows the weights allocated by the university for each of the five performance categories. The University is planning to give flexibility to the faculty members in terms of distributing their efforts between teaching and research in order to release research active faculties from part of the teaching load if possible.

Table 6.3: Assigned Weights for Faculty Involvement in Academic Duties

Faculty Activity	Allocated Points for Faculty in Professional Ranks	Allocated Points for Lectures
Teaching	38% - 53 %	70% - 90%
Research	15% - 35%	N / A
Student Advising	0.5%	5%
Administrative Service	5 – 10%	5 – 10%
Community Service	10%	5 – 10%

2.7 Criterion 7: Administrative Support

2.7.1 Leadership and Administrative Services

Dams and Water Resources Engineering Department (DWE) has a clear organizational structure that is updated at the start of every academic year. The Department Chair assumes the leadership of the B.Sc. in the field of dams and water resources engineering Program. Dr. Jumaa A. Al-Somadaei assumed the position of acting department chair effective beginning of Summer 2019. Prior to that, Dr. Sadeq O. Sulaiman was the Department Chair, where the Department Chair meets with the College Dean on a regular basis to discuss the department matters. The chair is entitled to a quarter teaching load reduction along with a monthly financial allowance.

The responsibilities of the department chair include preparation and management of the department's annual evaluation of faculty and staff. The chair also leads the process of planning to hire candidates for full-time academic and non-academic positions, at the department level, based on deliberations of appointed search committees and the department council.

Each faculty member, staff, and employee in the department has a defined function and role. Both faculty and staff in the Department have a role in the decision making through the various functions and committees that they participate in, with the council of faculty members serving as the ultimate forum in which issues are discussed and decisions are made at the department level. Formal minutes of meetings of the Department Council and committees are recorded and approved by all members. The roles of Faculty, Department Chair, Department Council, College Dean, College council, and other individuals and entities are well defined in the University Bylaws. The Department's organization chart is shown in Fig. 7.1.

Chairperson's Role

1. Preparation of department's needs after consultation with other faculty and staff members in the department so that it can be taken into consideration when the budget is prepared.
2. Maintaining records for the activities of the department, university documents relating to the department and supervision of their use in accordance with rules and practices followed in the University.
3. Supervising the selection of course textbooks and references.
4. Proposing the distribution of courses to be taught among staff members and submitting it to the Departmental Council.
5. Encouraging academic research and assisting faculty members in conducting research.
6. Distributing students amongst academic advisors and following up the progress of their study plans.

Faculty Role

1. Teaching and conducting examinations.
2. Conducting original research.
3. Supervision of dissertations, student research and student academic and social activities.
4. Academic advising.
5. Participation in University committees and in councils and committees which the University approves or participates in.
6. Devoting himself to his academic duties at the University and maintaining the levels appropriate to the University position and reputation in the fields of research, teaching, guidance, and administration.
7. Performance of any tasks requested by the President or College Dean given that such tasks are not incompatible with the nature of their work.
8. Serving the local community and fulfilling its needs.

Staff Role

Staff member's duties include conducting administrative tasks, lab supervision and taking care of technical issues. The main responsibility of staff is providing support services, such as secretariat, lab supervision and budget preparation that are necessary for the support and success of the program.

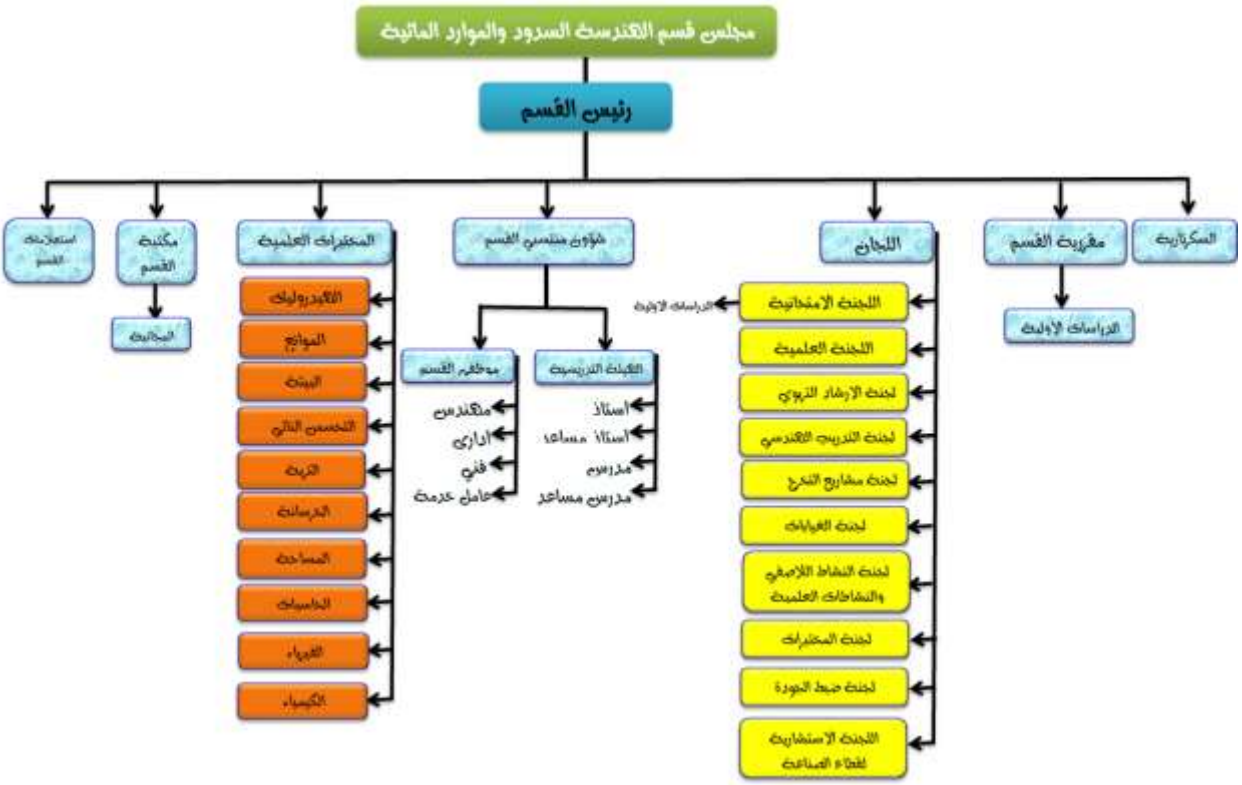


Fig. 7.1: Department Organizational Chart

2.7.2 Faculty Support

2.7.2.1 Faculty Recruitment

The university requires each department to assess its needs from faculty members at the beginning of each academic year. These needs are assessed due to the expected teaching and other workload tasks. These requirements are discussed and approved first within the department and college, then forwarded to the Vice President for Scientific Affairs for processing. Upon approval, positions are announced after the financial support is available from the Ministry of Finance.

2.7.2.2 Faculty Retention and promotion

The promotion of the faculty was performed by special committee in each department. The regulations of the promotion were set by the ministry for all Iraqi Universities.

2.7.2.3 Faculty Development Support

DWE department holds several seminars specifically for postgraduate students to share and discuss ideas and assessment the progress in their projects. Academic visits to water resources projects such as barrages and dams is another activity to engage students with the real life of engineers. Competition of final year project is organized by DWE department is proposed to encourage students in the final year produce the best within their projects. In addition, workshops in different subjects are hold through the academic year to help students reaching the goal of program and for staff as training chance to upgrade their skills.

Educational and Technology Courses are organized in continuing education center to teach the new staff how to teach, these courses were organized periodically for new member of staff.

The teacher is rated by the Quality Assurance Committee using special form prepared by the Ministry of Higher Education and Scientific Research.

The professional development efforts represent a prime objective of the university. Development is administered by the Ministry (Research and Development in the MOHESR). There is an office in the Ministry responsible for supporting financially the research works in the universities. Also, the university has its own budget for supporting professional activities at the university level.

2.7.3 Technical and Administrative Staff Support

2.7.3.1 Staff Size and Qualification

The program has sufficient staff of administration to support the faculty. Also, the program has several experienced engineers (mechanical and electrical) to run the labs.

2.7.3.2 Staff Recruitment and Retention

The staff are currently adequate to support the teaching needs of the program and therefore, there is no plan to hire new personnel.

2.7.3.3 Staff Development

The department organized different courses through the center of continuing education in several areas, including the use and applications of computer systems, maintenance and how to use them in administrative work.

2.8 Criterion 8: Financial Support

2.8.1 Funding Resources

The budgets for all departments were set by ministry every year according to central budget of the Ministry. There is also fund box of higher education support all Iraqi University for specific purposes. There is no specific percentage for the branches. However, there are some other funding resources like the Consultancy Bureau and evening study if applicable.

2.8.2 Program Budget

In the department, the budget is typically prepared in the following manner

1. The College of Engineering has initiated a strategic planning process that serves in part as the basis for communicating to the University the status, priorities, strategies, and budget needs.
2. The College compiles an overall budget based on budget requests from all Departments and submits the budget to the University.
3. The Vice-President for Finance and Administrative Affairs and members of the Finance and Administrative Affairs Unit discuss the budget request from the College with the Dean and faculty from the College, usually the Chairpersons and Assistant/Vice-Dean. The meeting is typically held for purposes of seeking clarifications and discussing requests in view of university policies and requirements.
4. Colleges are informed of approved budgets and details of approved items. The College of Engineering then discusses the budget in the College Board, and Departments start spending as per standard university procedures.
5. The Finance and Administrative Affairs Unit, with its various Departments and Units, exercises proper control over purchasing and inventory management.

2.8.2.1 Teaching and Learning Financial Support

The Department manages and monitors its own budget, which includes all the operating expenses of the Department and capital equipment for continuous improvement of undergraduate laboratories. The categories include maintenance and repair, functional operations of undergraduate laboratories, over-load teaching, educational support, and staff salaries.

2.8.2.2 Facilities Financial Support

This category includes facilities requirements. Each faculty room should have desk for each faculty, laptop for each faculty, air conditioning.

2.8.2.3 Faculty Financial Support

This category includes faculty salaries, overload teaching, evening load teaching and educational support.

2.8.2.4 Staff Financial Support

This category includes staff salaries, evening load lab teaching and educational support.

2.9 Criterion 9: Facilities

The space and facilities allocated to the College of Engineering are adequate to allow all departments of the College to successfully run and deliver their academic programs. In particular, the Dams and Water Resources Engineering Department occupies ample space within the College of Engineering and the University. The Department also utilizes classrooms and laboratories located in the adjacent buildings. A summary of offices, classrooms, and laboratories is described below.

2.9.1 Built Spaces and Associated Equipment

2.9.1.1 Offices

All offices (for faculty and staff) are fully equipped with up-to-date computing and printing facilities. Based on the needs, the faculty members may also be provided with a laptop computer, individual scanner, color printer, and other accessories. Each faculty is eligible to request other facilities and equipment that may facilitate his/her academic and research work in order to achieve the student outcomes. These requests are processed through the yearly budget requirements of the Dams and Water Resources Engineering Department.

2.9.1.2 Classrooms

Classrooms across the College are adequately equipped with all basic needs and technologies to provide support for teaching and learning activities, including students' desk, a large white board, an overhead projector. Wireless internet connections are available in the department. The Dams and Water Resources Engineering Department utilizes 6 classrooms with total capacity of 400 seats. Projectors and Data-shows is used to enable lecturers deliver the course requirements.

2.9.1.3 Laboratory facilities

The Central Laboratories Unit, which reports to the Deanship, is the administrative unit responsible for operating and managing all laboratories at the College. The duties of The Central Laboratories Unit include space management, buildings maintenance, purchasing new equipment, equipment maintenance, store services, inventory, safety, and training.

The Central Laboratories Unit administers all the labs for the College of Engineering.

2.9.1.4 Campus infrastructure and supportive facilities

The University of Anbar have all the necessary infrastructure necessary for students, faculty, and staff. These facilities include main library, sport facilities for football, basketball, tennis, volleyball and others, student's center for food and rest, faculty center and gardens and student hostels.

2.9.2 Computing Assets

In The Dams and Water Resources Engineering Department general computer support is available by an expert team in the computer lab. Generally, Lab hours are 9 am to 2pm, through Sunday to Thursday (excluding the national holidays).

The most commonly used computer lab by Dams and Water Resources Engineering Department is located in the main Building. This computer laboratory composed is (20) Laptops, projectors. The software that is used within the curriculum includes Microsoft Office applications, MATLAB /Simulink, AutoCAD, and GIS. All the computer hardware and software systems more than adequately support the DWE program educational objectives and outcomes.

2.9.3 Students Direction and Safety Precautions

The program in The Dams and Water Resources Engineering gives the candidate a high level of experience in both theoretical and experimental study. To achieve this, different ways are used for example lectures prepared by teaching staff according to the universal level are available to students. To ensure the engaged of theoretical and experimental aspects, the supervisory team who is responsible about each laboratory prepares a guideline book for each lab. Besides, workshops and seminars can add another option to accomplish the criteria of DWE engineering requirements.

2.9.4 Maintenance and Upgrading of Facilities

The maintenance unit at engineering college is responsible for insuring and maintaining all laboratory equipment and facilities from their own budget. The maintenance unit typically organizes maintenance and insurance agreements with various specialized firms and coordinates such activities with the concerned academic department. This arrangement has worked effectively so far.

During the second semester of every academic year, each academic department prepares a detailed budget request for the upcoming academic year. In the budget, the department indicates its budget request for laboratory equipment based on the needs identified by faculty members and laboratory engineers in the different disciplines of the program.

A department budget request is added to the requests made by other departments in the College to form the College Budget request. The College Budget request is forwarded to the Vice Chancellor for Administration and Financial Affairs then discussed in the

presence of the Dean, Vice Dean and other College representatives with the Vice Chancellor and members of the University Financial Affairs Committee. Upon review, the budget is handled by senior administration and eventually approved.
At the beginning of each new academic year, the college receives a copy of the approved budget. The budget is then forwarded to the departments and each department spends according to its approved share of the budget. The department forwards its requests for equipment with the required technical specifications. The Purchasing Department processes the requests and seeks three bids from potential suppliers. The bids are forwarded to the requesting department to check whether the technical specifications are met; finally, the Purchasing Department acts upon the recommendations of the requesting department.

2.9.5 Library Services

The college of engineering has an excellent library to provide students by textbooks, journals, and PhD students-thesis. In a very professional way students can loan any book form the library. Library is managed by an expert team. Hundreds of books are available for students though the working hours of library and can be loaned to help student achieve the course requirements. Besides, e-books are available for students. Overall, library successfully introduces an acceptable level of service.

Overall Comments on Facilities

Currently, all facilities are acceptable in terms of students and other staff can do their aim successfully. However, financial issue is the most challenge to maintain and upgrade the current facilities. Most laboratories in The Dams and Water Resources Engineering department need for new devices and allocated area for each lab should be extended. This can be considered the main parameter in achieving the purpose of the academic program.

On the other hands, in order to safely accomplish program objectives, the following safety measures are taken in all facilities of the the Dams and Water Resources Engineering.

Fire Safety:

All laboratories, classrooms halls, and corridors are equipped with fire extinguisher. In some laboratories, sand buckets are also provided for extinguishing fires in machines and equipment.

First Aid:

First aid kits are available in all laboratories and main corridors where faculty offices are located. All personnel of the College of Engineering are financially supported to participate in safety and first aid trainings regularly provide by the University Center for Continuing Education.

Personal Protective Equipment:

All laboratories are equipped with personal protective gears, when needed, including:

- Safety gloves
- Masks
- Lab coats
- Safety goggles
- Safety shoes
- Helmets
- Face masks (for sparks, chips, etc.)

2.10 Specific Program Criteria

Dams and Water Resources Engineering program lies under the Civil Engineering Ambarella. Specific program criteria are taken from the ICAEE requirements in addition to the usual University/College/Departmental requirements.

The criteria set the following requirements:

PROGRAM CRITERIA FOR CIVIL ENGINEERING

(And similarly named engineering programs or similar modifiers in their titles) Curriculum

The curriculum must prepare graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry, and at least one additional area of basic science; apply probability and statistics to address uncertainty; analyze and solve problems in at least four technical areas appropriate to civil engineering; conduct experiments in at least two technical areas of civil engineering and analyze and interpret the resulting data; design a system, component, or process in at least two civil engineering contexts; include principles of sustainability in design; explain basic concepts in project management, business, public policy, and leadership; analyze issues in professional ethics; and explain the importance of professional licensure.

All the above requirements are fulfilled through the DWE program extensive curriculum.

APPENDICES

APPENDIX A – COURSE SYLLABI

First Year

First Semester					Second Semester				
Course Title	Credit Hours	Weekly hours			Course Title	Credit Hours	Weekly hours		
		Lec.	Tut.	Lab.			Lec.	Tut.	Lab.
Calculus-I	**3**	3	1	---	**Calculus-II**	**3**	3	1	---
Physics	**4**	3	---	3					
Computer Science	**3**	2	1	3	**Engineering Geology**	**3**	2	1	3
Chemistry	**4**	3	---	3	**Engineering Drawing**	**3**	2	2	3
Fundamentals of Electrical Engineering	**2**	**1**	**1**	**2**	**Engineering Mechanics (Static)**	**3**	3	1	---
English Language-I	**2**	2	---	---	**Arabic Language**	**2**	2	---	---
Human rights	**1**	1	---	---	**Democracy**	**1**	1	---	---
Total	**19**	15	3	11	**Total**	**15**	13	5	6
		29					**24**		

Second Year

First Semester					Second Semester				
Course Title	Credit Hours	Weekly hours			Course Title	Credit Hours	Weekly hours		
		Lec.	Tut.	Lab.			Lec.	Tut.	Lab.
Calculus-III	**3**	3	1	---	**Calculus-IV**	**3**	3	1	---
Engineering Mechanics (Dynamics)	**3**	3	1	---	**Open Chanel**	**2**	2	1	-
Fluid mechanics	**3**	2	1	3	**Concrete Technology**	**3**	2	1	3
Engineering surveying-I	**2**	1	1	3	**Engineering surveying-II**	**2**	1	1	2
Building Materials Technology	**3**	2	---	2	**Soil Physics**	3	2	2	2
English Language-II	**2**	2	---	---	**Strength of materials**	**3**	2	1	2
Computer Programming- Visual Basic	**3**	2	---	2	**Construction for Water Resources Projects**	**2**	2	---	---
Total	**19**	15	4	10	**Total**	**18**	14	7	9
		29					**30**		

Third Year

First Semester					Second Semester				
Course Title	Credit Hours	Weekly hours			Course Title	Credit Hours	Weekly hours		
		Lec.	Tut.	Lab.			Lec.	Tut.	Lab.
Engineering Hydrology	2	2	1	-	Ground Water Hydrology	2	2	1	-
Soil Mechanics	3	2	2	3	Foundations Engineering	2	2	2	-
Environmental Engineering	3	2	1	2	Hydraulic Structures	3	2	1	2
Engineering Statistics	3	3	---	---	Engineering Numerical Methods	3	2	1	2
Theory of Structures	3	3	-	-	Water quality control	3	2	1	2
Engineering Management	3	3	2	-	Sanitary Engineering	2	2	1	-
Hydraulic Machine	3	3	1	-	Reinforced Concrete Design	3	2	-	2
English Language-III	2	2							
Total	19	17	7	5	Total	18	14	7	8
		29					29		

Fourth Year

First Semester					Second Semester				
Course Title	Credit Hours	Weekly hours			Course Title	Credit Hours	Weekly hours		
		Lec.	Tut.	Lab.			Lec.	Tut.	Lab.
Engineering Optimization	3	3	1	-	Method of Construction and Estimation	3	3	1	-
Irrigation Engineering	3	3	1	-	Drainage Engineering	3	3	1	-
Design of Dams	3	3	1	-	Safety and Operation of Dams	3	3	1	-
Leadership Skills & Engineering Ethics	2	2	-	-	Water Resources Planning and Management	3	3	1	-
Design and Evaluation of On-farm Irrigation systems	2	2	1	-	DWE Elective Class	3	3	1	-
DWE Elective Class	3	3	1	-	Senior Design II	3	2	-	3
Senior Design I	3	2	1	3	English Language-IV	2	2		
Total	19	18	6	3	Total	17	16	5	3
		27					24		

APPENDIX B – FACULTY VITAE

College of Engineering
Academic Accreditation Committee

cv

UNIVERSITY OF ANBAR
COLLEGE OF ENGINEERING

Name: Sadeq Oleiwi Sulaiman

Date of Birth: Anbar, Iraq, 1969.

Religion: Muslem

Martial statues: married.

No. of children:

Specialization: Water resources engineering

Position: Ph.D. - Assistant Professor in Water Resources Engineering

Scientific Degree: Assistant Professor

Work Address: al anbar university

Work Phone:

Mobile: +964-790-231-6403 / +964-783-104-5828

1st :Email: dr.sadiq1969@yahoo.com

2rd :Email: sadiqsoliman@uoanbar.edu.iq

First, Scientific Certification:

Degree science	University	College	Date
B.Sc.	AL-Anbar University	Collage of engineering	1993 .
M.Sc.	AL-Anbar University	Collage of engineering	2002
Ph.D.	University of Technology	Collage of engineering	2009

No.	Career	Workplace	From -To

1	**Assistant Head**	Civil Engineering Department	**2002-2003**
2	**Rapporteur and Assistant**	Dams and Water Resources Engineering	2004-2005
3	**- Member of the Scientific Committee**	the Department of Engineering of dams	2009 to yet
4	Graduate official	Dams and Water Resources Engineering	2012 to yet
5	supervisor of the Alumni Club	College of engineering	2012 to yet
6	Lecturer of Undergraduate Studies	Dams and Water Resources	
7	Coordinator of Graduate Studies	Dams & Water Resources Engineering	
8	Lecturer of Graduate Studies	Civil Engineering Department, Engineering College, University of	

Second, Career:

Third, University Teaching:

No.	University	The (Institute / College)	From -To
1	**AL-Anbar University**	**Collage of engineering**	**since 2002**

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	**civil engineering Department**	**Fluid mechanics**	
2	**civil engineering Department**	**Hydraulic structures**	
3	**civil engineering Department**	**Engineering Hydrology**	
4	**civil engineering Department**	**undergraduate laboratory courses.**	
5	**civil engineering Department**	**Graduation projects.**	
6	**civil engineering Department and water resource dep.**	**- hydraulic structures**	
7	Dams & Water Resources	**Open channel flow**	

8	Dams & Water Resources	**Engineering Hydrology of Fluid Mechanics**	
	Dams & Water Resources	**Hydraulic structures**	
	Dams & Water Resources	**Water Resources Planning &**	

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	Experimental tests to evaluate the waste water treatment by using Sulfate and Phosphate biofilters	Dams & water res.	(2011)
2	Estimate of Sediment Load Transported from Wadis to Haditha-Lake With Aid of GIS.	Dams & water res.	2012
3	Numerical modeling to estimate sediment transport and water quality of Euphrates River	Dams & water res.	2013

Sixth, Conferences which you participated:

No.	Conferences Title	Year	Place	Type of Participation
1	6 th International conference geotunis	2012		**search**

Seventh, Scientific Activities:

Within the College	Outside the College

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	**Numerical Modeling of Flood Wave Behavior with**	Eng. and Tech. Journal, Vol.29, No.7	2011
2	**Hydrologic study for Iraqi western desert to assessment**	Iraqi journal of Civil engineering, Vol.7, No.	2012
3	**Study the hydromorphometric properties of wadi ibab in Iraqi**	Iraqi journal of Civil engineering, Vol.7, No.2	2012
4	**Water characteristics of Al-Tharthar and Al-Habbaniya lakes and their effects in the**	Anbar University Journal of Human Sciences, Vol.0, No. 2.	2012

5	**Using Remote Sensing Technique for Calculate the**	**:** Anbar Journal for	2012
6	**Study the Effects of Water Level Depression in Euphrates River on**	Journal of civil engineering and architecture, Vol. 7, No.	2013
7	**Using of Geographic Information System (GIS) for Design of**	Iraqi journal of desert studies,	**2013**
8	**Estimation of sedimentation load that transport to Haditha reservoir from wadis using GIS:.**	Journal of remote sensing and GIS, Vol. 1, No. 1.	2013

Ninth, Membership

- **Member of Iraqi Engineer's Association ,**
- **Member of the Scientific Committee at the Department of Engineering of dams and water resources from 2009 to yet.**

Tenth, Awards and Certificates of Appreciation**:**

No.	Name of Awards and Certificates	Donor	Year
1	Best Project undergraduate award in, Iraq,	National Symposium	2010
2	Award for outstanding research	Geo-Tunis	2011
3	excellence research in 2nd Arab Water Conference	Qatar	2014

Eleventh, **Scientific literature:**

No.	Scientific Literature Title	Year of The Publication
1		

Twelfth, **languages:**

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Juma'a. Awad Hemed Jasim AL-Sumaidaii

Date of Birth: 28-September 1969

Religion: Muslim

Martial statues: Married

No. of children: 1

Specialization: Civil Engineering - Construction Management

Position: Faculty Staff

Scientific Degree: Ph.D. in Construction Management

Work Address: University Of Anbar /College Of Engineering/Dam and Water Resources Dep.

Work Phone:

Mobile: 07906227504

E-mail: jah_eng@uoanbar.edu.iq

First: Scientific Certification:

Degree science	University	College	Date
B.Sc.	University of Technology	Building and Construction Dept.	1992

M.Sc.	University of Technology	Building and Construction Dept.	2002
Ph.D	Baghdad	College of Engineering	2015

Second: Career:

No.	Career	Workplace	From -To
1	*Head of department*	Dams & water res.	

Third: University Teaching:

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	

Fourth: Courses Which You Teach:

No.	Department	Subject	Year
1			

Fifth: Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	Sustainable engineering practices in water resources management in a part of Euphrates river	Dams and Water Resources Engineering	2019

Sixth: Conferences which you participated:

No.	Conferences Title	Year	Place	Type of Participation
1	The Fifth Scientific Conference of the College of	2003	University of Baghdad	
2	The Second Scientific Conference of the College of Engineering	2010	University of Babylon	
3	The Second Scientific Conference of the College of	2012	University of Anbar	

4	The First Scientific Conference on Sustainable		Ministry of Planning - Iraq	

Seventh: Scientific Activities:

Within the College	Outside the College

Eighth: Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	Evaluation and management study for the project of Massad dam in the western region	The Iraqi Journal for Mechanical – and Materials Engineering .proceeding of	2010
2	Using value engineering and application in project of Anbar	Iraqi Journal for Civil Engineering	2011
3	Deterioration Model for Sewer Network Asset Management in	Journal of Engineering - Vol.22 Issue 2. Baghdad	2016
4	Development Mathematical Model for Brick Works Productivity by	International Journal of Applied Engineering	2016

Ninth: Membership

Member of Iraqi Engineer's Association

Tenth: Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1			

Eleventh: Scientific literature:

No.	Scientific Literature Title	Year of The Publication
1		

Twelfth: languages:

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Khamis Naba Sayl

Date of Birth: Falluja,1-1-1971

Religion: Muslim

Martial statues: Married

No. of children: 1

Specialization: Civil Engineering - Construction Management

Position: Faculty Staff

Scientific Degree: Ph.D. in Construction Management

Work Address: University of Anbar, College of Engineering, Dams and water Resources Engineering, Ramadi, Al-Anbar, Iraq. P.O Box (55431 Baghdad, 55 Ramadi)

Work Phone:

Mobile: 00964 7901887304

E-mail knsayl@uoanbar.edu.iq

First: Scientific Certification:

Degree science	University	College	Date
B.Sc.	BaghdadUniversity	SurveyingEngineering	1991
M.Sc.	Universityof Baghdad	SurveyingEngineering	1997

Ph.D	UKM,Malaysia	SurveyingEngineering	2018

Second: Career:

No.	Career	Workplace	From -To
1	*lecturer*	Dams & water res.	

Third: University Teaching:

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	

Fourth: Courses Which You Teach:

No.	Department	Subject	Year
1			

Fifth: Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	DeterminationofPotentialSitesforRunoffwaterHarvestingusingGeographic Information System and Remote Sensing Technologies	Dams and Water Resources Engineering	2019
2	Detection of Suitable Sites for Rainwater Harvesting Planning using Geographic Information System in the west desert of Iraq.		

Sixth: Conferences which you participated:

No.	Conferences Title	Year	Place	Type of Participation
1	1st Iraqi Conference of civil Engineering	2001	Iraq - Anbar	Attendance and participation
2	The The First International Engineering Sciences Conference of	2008	Aleppo, Syria.	Attendance and participation byresearch paper
3	The Second Scientific Conference of the College of	2012	University of Anbar	

4	First Scientific Conference of College of Engineering	2009	Babylon, Iraq	Attendance and participation by
5	First Scientific 2011Conference of College of	2011	Anbar, Iraq	Attendance and participation by
6	1st international conference of	2012	Turkey	Attendance and participation by
4	1st International Conference on Engineering and	2016	University of Salah Eldin- Arbil	Attendance and participation by research paper

Seventh: Scientific Activities:

Within the College	Outside the College

Eighth: Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1			

Ninth: Membership

Member of Iraqi Engineer's Association

Tenth: Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1			

Eleventh: Scientific literature:

No.	Scientific Literature Title	Year of The Publication
1		

Twelfth: languages:

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

UNIVERSITY OF ANBAR
COLLEGE OF ENGINEERING

STAFF C.V

Name: Ammar Hatem Kamel Al-Ani

Date of Birth: 16-12-1972.

Religion: Muslim

Martial statues: Married

No. of children: 3

Specialization: Civil Engineering-water resources

Position: Manager of scholarship and cultural relations

Scientific Degree: Assistant Prof.

Work Address: university of Anbar-Head quarter

Work Phone:

Mobile: 07835057104

E- **mail:** ammar.kamel@uoanbar.edu.iq

First, Scientific Certification:

Degree science	University	College	Date
B.Sc in Civil Engineering	Al-Mustansiriyah	Engineering	1994
M.sc in Civil Engineering	Al-Mustansiriyah	Engineering	1999

Ph.D in Civil Engineering	Slovak University of Technology	Civil Engineering	2008

National Programme for Optimal Using of Water Resources in Euphrates River Basin

Second, Career:

No.	Career	Workplace	From -To
1	Consultant	National Programme for Optimal Using of Water Resources in	1998-2002
2	Consultant	enviromental cross-border	2005-2008
3	Consultant	Al-Anbar Power Station Project	2009-2010
4	Consultant	Al-Falluja Sewers Project	2010
5	Consultant	Gaara Dam Project	2010-2012
6	Designer	Chem Kany Maran Dam Project	2010-2011
7	Consultant	Al-massad Dam Project	2010-2013
8	Consultant	Akaz Power station Project	2011-2012
9	Consultant	Al-falluja houses Project	2012-2013

Third, University Teaching:

No.	University	The (Institute / College)	From -To
1	Anbar	Engineering	2002-2004
2	Slovak university of	Civil engineering	2006-2008
3	Anbar	Engineering	2008-now

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	Civil Engineering	Fluid Mechanics	2003
2	Civil Engineering	Hydraulic Structure	2003
3	Civil Engineering	Fluid Mechanics	2004

4	Civil Engineering	Hydraulic Structure	2004
5	Engineering Hydrology	Dams & Water Resources	2003
6	Engineering Mechanics	Dams & Water Resources	2003
7	Fluid Mechanics	Hydraulic-Slovakia	2007
8	Engineering Hydrology	Hydraulic-Slovakia	2007
9	Fluid Mechanics	Dams & Water Resources	2008-2010
10	Dams Design	Dams & Water Resources	2008-Now
11	Hydraulic Structure	Civil Engineering	2009
12	Simulation & Modeling	Civil Engineering	2010-2014
13	Advance Fluid Mech.	Civil Engineering	2012-2014
14	Simulation & Modeling	Dams & Water Resources	2019
15	Advance Fluid Mech.	Dams & Water Resources	2018

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	Evaporation Reduction from Subsurface Reservoirs Using Different Types of Soil	Civil Engineering	2012
2	Small Dams Series at Euphrates River to Improve hydraulic Properties and Generate hydroelectric power	Civil Engineering	2012
3	Effect of Al-Massad Dam Spillway Location on The Hydraulic Properties of the Spillway	Civil Engineering	2014
4	Calculation of Optimal Height and Number of Small Dams Series At Upper Euphrates River (In Iraq) Using Hec-Ras and Vba	Civil Engineering	2015

5	Modelling Using Gravel Reservoir to minimize Evaporation losses and Biological Contamination	Civil Engineering	2017

Sixth, Conferences which you participated

No.	Conferences Title	Year	Place	Type of Participation
1	**7-International conference of**	2007	**Slovakia**	researcher
2	**6th International Conference of PhD students**	2007	**Hungary**	researcher
3	10th International Symposium on water management and hydraulic	2007	**Croatia**	researcher
4	**International Conference of PhD students**	2007	Brno- Cech Republic	researcher
5	1st international conference of	2010	Iraq	researcher
6	5-International conference of civil engineering	2011	Jordan	researcher
7	International conference of Protection of environment	2012	Turkey	researcher

Seventh, Scientific Activities:

Within the College	Outside the College

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of	Year
1	**Application of hydrodynamic Model for the Euphrates River in Iraq**	**Slovakia**	**2008**
2	**Numerical Modelling of Flood Waves in Rivers in GIS Environment**	**Slovakia**	**2008**
3	**Study of Using The Regulator on River to Electrical Power Production**	**Iraq**	**2009**
4	**Development a Mathematical model For the Euphrates River Flow**	**Iraq**	**2010**

5	Determination of Water Harvesting Regions in Iraqi Western Desert Using GIS System	Iraq	2010
6	Development of River Flood Maps in GIS Environment	Iraq	2010
7	Hydrologic study for Iraqi Western Desert to assist water harvesting in arid	Iraq	2012
8	Evaluation of potential water harvesting in arid region	Turkey	2012
9	Prediction of some engineering properties for soil using GIS and remote sensing techniques	Turkey	2012
10	Study the Effects of Water Level Depression in Euphrates River on the Water Quality	USA	2013
11	Effects of Depression of Water Level in the Euphrates River in Iraq on the	USA	2013
12	Simulation of Flow Patterns Over Spillway of Small Dams Using Models with Distorted Small Scales	Iraq	2013
13	Temporal and Spatial variability of Potential Evapotranspiration in Semi-	Malaysia	2014
14	Calculation of Optimal Height and Number of Small Dams Series At Upper	Australia	2014
15	Experimental Investigation about the Effect of Sand Storage Dams on Water Quality	Iraq	2016
16	ESTIMATE OF POTENTIAL WATER EXCESSES, SURFACE RUNOFF IN THE VALLEYS OF WESTERN	Malaysia	2016
17	Investigation of Water Balance Methods of Haqlan Basin in the Western Region of Iraq	Malaysia	2016
18	Study the Effect of Spillway Locations on the Hydraulic Properties of Spillway	Portugal	2016

Ninth, Membership

- **Member of Iraqi Engineer's Association**

Tenth, Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1	General English and Academic Skills	Liverpool John Mores university-U.K	2011
2	Academic development	Liverpool John Mores	2011

3	**Training and partnership development of a**	**Ball state University-USA**	**2018**
4	**STEM Programme**	**Ball state University-USA**	**2019**

Eleventh, Scientific literature:

No.	Scientific Literature Title	Year of The Publication
1		
2		
3		

Twelfth, languages:

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

UNIVERSITY OF ANBAR
COLLEGE OF ENGINEERING

Staff
C.V

Name: Ammar Ahmed Hammadi

Date of Birth: 27/1/1988 Religion:

Muslim

Martial statues: Single

No. of children:

Specialization: Concrete Design and Technology

Position: Faculty member

Scientific Degree: M.Sc

Work Address: University of Al-Anbar/Dams and Water resources

Department

Work Phone:

Mobile: 009647820034297

E_mail: ammar.ahmed@uoanbar.edu.iq or

ammaliyak88@gmail.com

FIRST, SCIENTIFIC CERTIFICATION:

Degree science	University	College	Date
Bachelor of Civil Engineering	University of Anbar	Engineering	2008 - 2009
Master of Science	University of Anbar	Engineering	2011-2012

Second, Career:

No.	Career	Workplace	From -To
1	Assistant Lecturer	University of Anbar / deanship of engineering college	2016 -2017
2	Assistant Lecturer	University of Anbar, Dams and Water Resources Engineering	2017 till now
3			

Third, University Teaching:

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	2016 till now

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	Civil Dep.	Theory of structure	2016_2017
2	Civil Dep./Dams & water res.	Concrete technology laboratory	2016_2017
3	Dams& water res. Dep.	Tech. of building materials	2017 till now
4	Dams& water res. Dep.	Survey laboratory	2017 till now
5	Dams& water res. Dep.	Physics 1	2018-2019
6	Dams& water res. Dep.	Mathematic	2018-2019

7	Dams& water res. Dep.	Strength of materials laboratory	2018-2019
8	Dams& water res. Dep.	Theory of structure	2018-2019
9	Dams& water res. Dep.	Final year project	2017-2018, 2018-2019

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	None		

Sixth, Conferences which you participated:

No.	Conferences Title	Year	Place	Type of Participation
1	Civil Eng. Conf. Engineering and Sustainable	2018	Mustansiriya University	presenter
2	International Conference on Engineering (ISRA)	2018	Turkiye	presenter

Seventh, Scientific Activities:

Within the College	Outside the College
•	Trip to al-warrar regulator 2017- 2018/2018-2019
•	Trip to al-warrar regulator 2018- 2019

Eighth, Research Projects in The Felid of Specialization to TheEnvironment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1			
2			

NINTH, MEMBERSHIP

- **Iraqi engineers union**

Tenth, Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1			

Eleventh, Scientific literature:

No.	Scientific Literature Title	Year of The Publication
١	Aseel Madallah Mohammed, **Ammar Ahmed Hammadi**" Effect of Adding The Plastic Waste as Fibers on Mechanical Properties of Concrete, Journal of Engineering and Sustainable	2018
٢	Aseel Madallah Mohammed, **Ammar Ahmed Hammadi** ,AbdulkaderIsmail Abdulwahab"The Possibility of waste plastic reinforced eco-friendly recycled aggregate concrete ", International	2018

Twelfth, languages:

- ✓ **Arabic**
  a) **English**
  b) **Kurdish**

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Nabeel S. Mahmood

Specialization: Civil Engineering- Geotechnical

Position: Instructor

Scientific Degree: PhD

Work Address: Department of Dams and Water Resources Engineering
University of Anbar
P.O Box 55
Ramadi, Iraq, 31001

Work Phone:

Mobile : (+964) 781-777-9698
(+1) 479-301-1654

E-mail: nabeelshm@uoanbar.edu.iq

First, Scientific Certification:

Degree science	University	College	Date
BSc in Civil Engineering	University of Anbar	Engineering	2001
MSc in Civil Engineering (Soil and Foundations)	University of Baghdad	Engineering	2004

PhD in Civil Engineering (Geotechnical)	University of Arkansas, Fayetteville	Engineering	2018

Second, Career:

No.	Career	Workplace	From -To
1	Instructor	College of Engineering- University of Anbar	2018- present
2	Adjunct Instructor	Department of Civil Engineering- University of Arkansas, Fayetteville, USA	2015-2018
3	**ASTM Proctor** Proctor tests including: basic aggregates, soils, concrete, and hot mix asphalt	Center for Training Transportation Professionals (CTTP), University of Arkansas, Fayetteville, USA	2016-2018
4	Co-owner	Al-Saddiq Consulting Bureau, Ramadi, Iraq	2011-present
5	Instructor	College of Engineering- University of Anbar	2005-2012
6	**Consultant Engineer** Preparing geotechnical reports and designing foundations for engineering structures	Engineering Consulting Bureau of the University of Anbar, Ramadi, Iraq	2005- present
7	**Consultant Engineer** Al-Messad Dam in the Western Desert of Iraq	Engineering Consulting Bureau of the University of Anbar, Ramadi, Iraq	2011-2012
8	**Consultant Engineer** Gha'ara/2 Dam in the Western Desert of Iraq	Engineering Consulting Bureau of the University of Anbar, Ramadi, Iraq	2018-2011
9	**Consultant Engineer** Horan/2 Dam in the Western Desert of Iraq	Engineering Consulting Bureau of the University of Anbar, Ramadi, Iraq	2005-2007
10	**On-site Consultant Engineer** Horan/2 Dam in the Western Desert of Iraq	Engineering Consulting Bureau of Mustansiriya University, Baghdad, Iraq	2004-2005
11	**On-site Engineer** Construction of border observation posts-Western border of Iraq	Engineering Consulting Bureau of Al-Nahrain University as subcontractor of Parsons Corporation	2004

Third, University Teaching:

No.	University	The (Institute / College)	From -To

1	University of Anbar	College of Engineering	2018-present
2	University of Arkansas, Fayetteville, USA	College of Engineering	2015-2018
3	University of Anbar	College of Engineering	2005-2012
4	University of Anbar	College of Science	2002-2003

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	Dams and Water Resources Engineering, University of Anbar	- Soil Physics - Leadership and Ethics - Foundation Engineering - Supervising undergraduate senior design projects	2018-present
2	Civil Engineering Department, University of Arkansas, Fayetteville	- CVEG 4143(Foundation Engineering) - CVEG 3133L (Soil Mechanics Laboratory)	2015-2018
3	Dams and Water Resources Engineering, University of Anbar	- Engineering Geology - Foundation Engineering - Soil Mechanics, Strength of Material - Supervised undergraduate senior design projects	2005-2012
4	Chemistry Department/ Biology Department, College of Science, University of Anbar	Computer Programming - Visual Basic - Delphi 5	2002-2003

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year

Sixth, Conferences which you participated:

No.	**Conferences** Title	Year	Place	Type of Participation

1	Al Muthanna Engineering Conf.	2012	University of Al Muthanna, Iraq	Proceeding
2	2014 Geo-Congress -GI of ASCE	2014	Atlanta, Georgia, USA	Student Competition
3	Geoconfluence, GI ASCE	2014	Lawrence, Kansas, USA	Participation
4	The International Foundations Congress and Equipment Expo, GI of ASCE	2015	San Antonio, Texas, USA	Participation
5	The Geotechnical and Structural Engineering Congress 2016, GI and SEI of ASCE	2016	Phoenix, Arizona, USA	Student Competition
6	Geotechnical Frontiers	2017	Orlando, Florida, USA	Participation
7	The International Foundations Congress and Equipment Expo	2018	Orlando, Florida, USA	Proceeding

Seventh, Scientific Activities:

Within the College	Outside the College
Head of ABET committee of the Department of Dams and Water Resources Engineering	
Secretary of the Scientific committee of the Department of Dams and Water Resources Engineering	

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	Zhao, Y., **Mahmood, N. S.**, Coffman, R.A., (2020). "Soil Fabric and Anisotropy as Observed Using Bender Elements during Consolidation." *International Journal of Geomechanics*, Vol. 20, No. 4, pp. 1454-1478, https://doi.org/10.1061/(ASCE)GM.1943-5622.0001630		
2	**Mahmood, N. S.**, Coffman, R.A., (2019). "Effect of Stress Path on Saturated Clay Moduli." Acta Geotechnica. In Preparation.		

3	Zhao, Y., **Mahmood, N.S.**, Coffman, R.A., (2019). "Small-strain and Large-strain Modulus Measurements with a Consolidation Device." *Journal of Testing and Evaluation,* Vol. 47, No. 2, pp. 1454-1478, https://doi.org/10.1520/JTE20160331		
4	**Mahmood, N. S.**, and Coffman, R. A., (2018c). "Small-strain of Reconstituted Soils: The Effect of Slurry Water Content." Geotechnical Testing Journal, (In press, Manuscript Number: GTJ-2018-0098- R1).		
5	**Mahmood, N. S.** and Coffman, R. A., (2018b). "The Effects of Stress Path on the Characterization of Reconstituted Low Plasticity Kaolinite." Soils and Foundations, (Under Review, Manuscript Number: SANDF-D-17-00352-R1).		
6	**Mahmood, N. S.**, and Coffman, R. A., (2018a). "Intrinsic Shear Strength Behavior of Reconstituted Kaolinite and Illite Soils." Quarterly Journal of Engineering Geology and Hydrogeology, (In Review, Manuscript Number: qjegh2018-056-R1).		
7	Mahmood, N. S. and Miranda, E. M., (2018). "GeoPrediction 2018 Report." The International Foundations Congress and Equipment Expo (IFCEE), Orlando, FL		
8	Zhao, Y., **Mahmood, N.S.**, Coffman, R.A., (2018). "Soil Fabric and Anisotropy as Observed Using Bender Elements during Consolidation." *Clays and Clay Minerals*. Submitted for review, Manuscript Number: CCM-1143, R1.		
9	**Mahmood, N. S.** (2012). "Sand Dunes Modification by Natural Asphalt with Cement and Lime." *Al Muthanna for Engineering and Sciences*. Vol. 1, No. 1, pp. 14-23.		
10	Al-Abdullah, S. F. and **Mahmood, N. S.** (2008). "Characteristics of Gypseous Soils Treated with Calcium Chloride Solution." *Journal of Engineering*. Vol. 14, No. 2, pp. 2403-2414.		

Ninth, <u>Membership</u>

- Member, American Society of Civil Engineers (ASCE) from 2014-present
- Certified Field Concrete Testing Technician from the American Concrete Institute (ACI) from 2016- present
- Certified Leadership Trainer from CEO Global USA

- Vice Present, Geo-Institute Graduate Student Organization, University of Arkansas (May 2015- 2017)

- Member, The Iraqi Engineers Union (2001-present)

Tenth, Awards and Certificates of Appreciation:

No.	Name of **Awards and Certificates**	Donor	Year
1	Third place winner in the National Competition of Undergraduate Students Research	National Student Union, Baghdad, Iraq	2000
2	Nominated by the College of Engineering, University of Anbar for Saddam's Award	The Presidency Office of Iraq	2001
3	Third place winner in the GeoPrediction 2018 Competition	The International Foundations Congress and Equipment Expo (IFCEE), Orlando, FL, USA	2018

Eleventh, Scientific literature:

No.	Scientific Literature Title	Year of The Publication
1		
2		
3		

Twelfth, languages:

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

UNIVERSITY OF ANBAR
COLLEGE OF ENGINEERING

Staff C.V


Photo

Name: Arkan Dhari Jalal

Date of Birth: 03/09/1977

Religion: Muslim

Martial statues: Married

No. of children: 2

Specialization: Environmental Engineering

Position: Faculty member

Scientific Degree: Ph.D.

Work Address: University of Al-Anbar/Dams and Water resources Department

Work Phone: 009647827549961

Mobile: 009647827549961

E-mail: arkan.dhari@uoanbar.edu.iq or arkandhari@yahoo.com

First, Scientific **Certification:**

Degree science	University	College	Date
BSc	University of Anbar	Civil Engineering	1999
MSc	University of Technology	Building and Construction/Environmental Engineering	2002
Ph.D.	University of Kansas	Civil, Environmental, and Architectural Engineering	2018

Second, Career**:**

No.	Career	Workplace	From -To
1	Assistant Lecturer	College of Engineering- University of Anbar	2006-2012
2	Lecturer	College of Engineering- University of Anbar	2012–2018
3	Ph.D. faculty member	College of Engineering- University of Anbar	2018-

Third, University Teaching**:**

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	2006-2019
2			
3			

Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	Dam &Water Resources Engineering	Sanitary And Environmental Engineering	2006-2012-2018-2019
2	Dam &Water Resources	Mechanic(static and dynamic) Eng.	2007-2009
3	Dam &Water Resources	Calculus 1	2009-2010
4	Dam &Water Resources	English I	2018-2019
5	Dam &Water Resources Engineering	English III	2018-2019

6	Dam &Water Resources	English IV	2018-2019

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1			

Sixth, Conferences which you participated**:**

No.	Conferences **Title**	**Year**	**Place**	**Type of Participation**
1	1st Eng. Conf.	2012	Tourist City	Researcher
2	1st Int. Scientific. Conf.	2019	Haditha City	Researcher

Seventh, Scientific Activities:

Within the College	Outside the College
Scientific Committee **ABET Committee** **Senior Design projects Committee**	**Engineering consultants**

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	**Place of Publication**	Year
1	**Study in affecting of using Coagulants and Coagulants Aid (Porcelanite and Silica) upon improving the efficiency of water treatment with high Turbidity**	**Iraqi Journal for Civil Engineering**	**2012**
2	**Possibility of using the western Iraqi silica sand at drinking water treatment filters**	**Iraqi Journal for Civil Engineering**	**2011**

Ninth, Membership

- ------ **A consultant and member of the Iraqi Engineers Union**

Tenth, Awards and Certificates of Appreciation**:**

No.	Name of Awards and Certificates	Donor	Year
1			

Eleventh, **Scientific literature:**

No.	Scientific Literature Title	Year of The Publication
1		

Twelfth, **languages:**

- ✓ Arabic
- ✓ English
- ✓

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Zaid Al-Azzawi

Date of Birth: March, 10th, 1974

Religion:

Martial statues: Married

No. of children: 5

Specialization: Structural Engineering

Position: Faculity member

Scientific Degree: PhD

Work Address:

Work Phone:

Mobile: 07736702467

E-mail: zaid.kani@uoanbar.edu.iq

First, Scientific **Certification:**

Degree science	University	College	Date
BSc	University of Anbar	Engineering	1995
MSc	University of Technology	Building and Construction	1998
PhD	University of Edinburgh	School of Engineering	2016

Second, Career**:**

No.	Career	Workplace	From -To
1	*Senior Lecturer*	College of Engineering- University of	2016-
2	*Course Organizer and PhD Student*	School of Engineering- University of Edinburgh	2015-2016
3	*PhD Student*	School of Engineering- University of Edinburgh	2013-2015
4	*Senior Lecturer*	College of Engineering- University of Anbar	2012-2013
5	*Lecturer*	College of Engineering- University of Anbar	2009-2012
6	*Projects Manager*	Al-Madarij for General Contracting Co.	2005-2009
7	*External Lecturer*	College of Engineering- University of Anbar	2003-2005
8	*Projects Manager*	Experts bureau for Engineering Consultancy	2002-2003
9	*Site Engineer*	Abu Arja Contracting Engineers	1999-2002

Third, University Teaching**:**

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	2016-
2	University of Edinburgh	School of Engineering	2013-2016
3	University of Anbar	College of Engineering	2009-2013

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	Civil Engineering	Engineering and Numerical Analysis	2003-2005
2	Dams and Water Resources	Engineering Analysis, Numerical Analysis, Theory of Structures,	2009-
3	School of Engineering/ IIE	Theory of Structures, Plastic Analysis for Frames and Slabs, Structural Forms Functions and Design Philosophy, Finite Element	2013-2016

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	Bond Strength of Concrete with Hooked Steel Bars at	Civil Engineering	2018
2	Determination of Flexural Toughness, Impact	Civil Engineering	2018
3	CFRP Strengthening of Steel Plate Girders with	Civil Engineering	2019

Sixth, Conferences which you participated:

No.	Conferences Title	Year	Place	Type of Participation
1	First Engineering Conference	2012	Anbar	Conf. paper
2	ACIC	2015	Cambridge	Conf. paper
3	CICE	2015	Lisbon	Abstract
4	European Bridge Engineering	2015	Edinburgh	Conf. paper
5	Scotland 3rd Joint postgraduate conference	2015	Edinburgh	Conf. paper
6	Protect-2015	2015	Michigan	Conf. paper

7	ACMBS-VII	2016	Vancouver	Conf. paper
8	ICEMAS	2018	Antalya	Conf. paper
9	CCIT	2019	Anbar	Conf. paper

Seventh, Scientific Activities:

Within the College	Outside the College
Head of the Academic Accreditation Committee	Fulbright Visiting Scholar Program

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	▪ Shear Capacity of High-Strength Fiber Reinforced Beam-Column Joints, Engineering and Technology Journal, V. 28, No. 6, 2010.		
2	▪ Mechanical Properties of High-Strength Fiber Reinforced Concrete, Engineering and Technology Journal, V. 28, No. 12, 2010.		
3	▪ Impact Resistance of Chopped-Worn-Out Tires Concrete, Engineering and Technology Journal, V. 28, No. 16, 2010.		
4	▪ Strength and Behavior of Fibrous High-Strength Concrete Columns, Anbar Journal For Engineering and Sciences, Special Issue- Part		
5	▪ Finite Element Modeling of Shear in Beam-Column Joints Using ANSYS software, Proceedings, Jordanian International Civil		
6	▪ Effect of hoops and column axial load on shear strength of High-Strength Fiber Reinforced Beam-Column Joints, Journal of Engineering-		
7	▪ Effect of Flange and Stiffener Rigidity on the Boundary Conditions and Shear Buckling Stress of Plate Girders, European Bridge Engineering		
8	▪ Buckling Strength of Slender Steel Plates Stiffened with Corrugated FRP Panels, ACIC, 2015		

9	▪ Towards a Better Understanding of the Factors Affecting the Prediction of Shear Buckling Coefficients of Steel Plate Girders, Scotland 3rd		
10	▪ FRP Shear Strengthening of Thin-Walled Plate Girder Web Panels Subjected to Cyclic Loading, Protect 2015.		
11	▪ FRP Strengthening of Web Panels of Steel Plate Girders against Shear Buckling under Static and Cyclic Loading., ACMBS MCAPC VII, 2016.		
12	▪ Structural Behaviour and Fracture Energy of Recycled Steel Fibre Self-Compacting Reinforced Concrete Beams, Journal of		
13	▪ Enhancing Mechanical Properties of No-fines Concrete Using Waste Plastic Fibres, Journal of Engineering and Applied		
14	▪ FRP Strengthening of Web Panels of Steel Plate Girders against Shear Buckling Part-I: Static Series of Tests, Composite Structures, 206 (2018)		
15	▪ FRP Strengthening of Web Panels of Steel Plate Girders against Shear Buckling Part-II: Fatigue Study and Cyclic Series of Tests, Composite		
16	Utilizing Recycled Concrete and Stone Aggregate as Replacement for Natural and Crushed Virgin Aggregate, International Journal of Engineering &		

Ninth, Membership

- A consultant and member of the Iraqi Engineers Union No. 76955 in 26 July 1995.
- Member of the Jordanian Engineers Union No. 15030/1 in 19 Feb. 2001.

Tenth, Awards and Certificates of Appreciation**:**

No.	Name of Awards and Certificates	Donor	Year
1	**Fulbrigh Visiting Scholar Award**	**US Embassy**	**2018**
2	Patent: Strengthening Shear Capacity and Improving Buckling Strength of Thin-Walled Steel Plates Using a Novel Section Pre-Fabricated from Carbon Fibre Reinforced Polymers (CFRP)	**Ministry of Planning**	2018

Eleventh, Scientific literature:

No.	Scientific Literature Title	Year of The Publication
1		
2		
3		

Twelfth, languages:

- ✓ Arabic
- ✓ English
- ✓ Kurdish
- ✓ French

College of Engineering
Academic Accreditation Committee

C.V

COLLEGE OF ENGINEERING

Staff C.V

Name: Ghassan Subhi Jameel

Date of Birth: 01/01/1980

Religion: muslim

Martial statues: married

No. of children: 2

Specialization: concrete design and technology

Position: Faculity member

Scientific Degree: PhD

Work Address:

Work Phone:

Mobile:009647829019571

E-mail: gsj_alkubaisi@yahoo.com

First, Scientific **Certification:**

Degree science	University	College	Date
BSc	University of Anbar	Engineering	2002
MSc	University of Anbar	Engineering	2008
PhD	University Gaziantep	Engineering	2017

Second, Career**:**

No.	Career	Workplace	From -To
1	Senior Lecturer	College of Engineering- University of Anbar	2017-
2	*PhD Student*	College of engineering- university of	2013-2017
3	Lecturer	College of Engineering- University of Anbar	2009-2013
4	MSc Student	College of Engineering- University of Anbar	2007-2009
4	Assist Lecturer	College of Engineering- University of Anbar	2003-2007

Third, University Teaching**:**

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	2017-
2	University of Gaziantep	College of Engineering	2013-2017
3	University of Anbar	College of Engineering	2003-2013

Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	Dams and water resourses	Concrete design	2008-2009
2	Dams and water resourses	Concrete technology	2009-2010
3	Dams and water resourses	Building materials	2010-2011
4	Dams and water resourses	Mathmatics1	2011-2012
5	Dams and water resourses	Physics	2017-2018
6	Dams and water resourses	Construction of water resourses	2017-2018
7	Dams and water resourses	Dynamics	2018-2019

8	Dams and water resourses	Strength of materials	2018-2019

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1			

Sixth, Conferences which you participated**:**

No.	Conferences **Title**	Year	Place	Type of Participation
1	2nd annual scientific conference of the college of engineering- university of babylon	2010	Iraq-university of babylon	Conf. paper

Seventh, Scientific Activities:

Within the College	Outside the College
Member in the laboratories group	

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	**Improving the mechanical properties of steel fiber concrete by using acrylic polymer**	**Conference-iraq**	**2010**
2	**Effect of addition of wast plastic fiber on compressive and tensile strength of structural lightweight concrete made of broken brics as a corse**		**2012**
5			

Ninth, Membership

Tenth, Awards and Certificates of Appreciation**:**

No.	Name of Awards and Certificates	Donor	Year
1			

Twelfth, languages:

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: **Abdulrahman Suhail Mohammed**

Date of Birth:22/11/1983

Religion: Muslim

Martial statues: Married

No. of children: 2

Specialization: Civil Engineering/ Water Resources

Position: Faculity member

Scientific Degree: M.sc.

Work Address:

Work Phone:

Mobile: 07906809224

E-mail: Abdulrahman.suhail@uoanbar.edu.com

First, Scientific **Certification:**

Degree science	University	College	Date
B.Sc.	University of Anbar	Engineering	2006
M.Sc.	University of Anbar	Engineering	2012

Third, University Teaching:

No.	Career	Workplace	From -To
1	Engineer	University of Musul	2007-2008
2	Engineer	University of Anbar	2008-2012
3	*Assistant Lecturer*	University of Anbar	2012-2019

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering- University of	2012-2019

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	Dams and Water Resources	Math.2	2012-2013
2	Dams and Water Resources +civil	Math.2+Math.3	2013-2014
3	Dams and Water Resources +civil	Math.1+Math.2	2014-2015
4	Dams and Water Resources +civil	Math.1+Math.2+Math4	2015-2016
5	Dams and Water Resources	Open channel+ Hydraulic Structures + Sanitary Engineering	2016-2017
6	Dams and Water Resources	Math.3+Math.4	2017-2018
7	Dams and Water Resources	Engineering Drawing+ Safety, and Operation of Dams	2018-2019

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1			

Sixth, Conferences which you participated**:**

No. (بحث)	Conferences Title	Year	Place	Type of Participation
1	Geometric Conference	2011	University of Anbar	Attending
2	Implementation of postgraduates researches to	2012	AL-Mustansiriyah	research

Seventh, **Scientific Activities:**

Within the College	Outside the College

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	***Application of Artificial Neural Networks to Forecast the Release Water from Haditha***	***Engineering and Development Journal***	**2012**
2			
3			
4			
5			

Ninth, Membership

- ----------

Tenth, Awards and Certificates of Appreciation**:**

No.	Name of Awards and Certificates	Donor	Year
1	**Acknowledgement**	**President of Mosul**	**2007**

2	**Acknowledgement**	**President of Anbar University**	2013
3	**Acknowledgement**	**President of Anbar University**	2017
4	**Acknowledgement**	Dean of college	2007
5	**Acknowledgement**	Dean of college	2008
6	**Acknowledgement**	Dean of college	2009
7	**Acknowledgement**	Dean of college	2010
8	**Acknowledgement**	Dean of college	2010
9	**Acknowledgement**	Dean of college	2010
10	**Acknowledgement**	Dean of college	2011
11	**Acknowledgement**	Dean of college	2012
12	**Acknowledgement**	Dean of college	2015
13	**Acknowledgement**	Dean of college	2016
14	**Acknowledgement**	Dean of college	2017

Eleventh, Scientific literature:

No.	Scientific Literature Title	Year of The Publication
1		
2		
3		

Twelfth, languages:

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name:Prof. Dr. Abdulkader Ismail Abdulwahab Al-Hadithi

Date of Birth:21-6-1968

Religion: Muslim

Martial statues: Married

No. of children: 5

Specialization: Concrete Design and Technology

Position: Teaching Staff Member

Scientific Degree: PhD

Work Address: University of Anbar- College of Engineering

Work Phone:

Mobile: 00964 7710007876

E-mail:al_hadithi2000@yahoo.com

Degree science	University	College	Date
B. Sc.	Basrah University	Engineering	1992
M.Sc.	University of Anbar	Engineering	2001

Ph.D.	University of Technology **Se Second,** Career:	Engineering	2005

First, Scientific **Certification:**

Second, Career:

No.	Career	Workplace	From -To
1	Engineer	Iraqi Military Works Directorate Ramadi Branch	1993 –1994.
2	Engineer	Plant of Clinical Bottle / Ramadi	1994-1995
3	Structural Engineer	Umour al Mukhtar Engineering Consultant Bureau / Derna-Libya	1995
4	Lecturer	Umar AL Mukhatar Insitiute / Derna – Libya	1995-1996
5	Consultant Engineer	Laboratories Director – Engineering Consultant Bureau / College of Engineering, University of Anbar	2004-2011
6	External Lecturer in	Civil Engineering Department Labs– College of Engineering, University of Anbar	1996-2000
7	Assistant head of Civil Engineering Department	College of Engineering. University of Anbar	2000-2001
8	Manger Editor of Iraqi Journal of Civil Engineering	College of Engineering. University of Anbar	2001-2016
9	Assistant of head of Civil Engineering Department for Scientific affairs	College of Engineering. University of Anbar	2002 - 2006
10	Assistant Lecturer	Civil Engineering Department– College of Engineering, University of Anbar	2001-2004

11	Lecturer	Civil Engineering Department– College of Engineering, University of Anbar	2004-2007
12	Head of Dams and Water Resources Engineering Department	College of Engineering, University of Anbar	13/11/2006-30/6/2011
13	Assistant Professor	Dams and Water Resources Engineering , University of Anbar	2007-2015
14	Head of Scientific Promotions	College of Engineering, University of Anbar	2012-2015
15	Full Professor	Dams and Water Resources Engineering , University of Anbar	Since 2015
16	Associate Dean for Scientific Affairs and Postgraduate Studies	College of Engineering, University of Anbar	2015-2017
17	Member of Editorial Board of Iraqi Journal of Civil Engineering Science	College of Engineering, University of Anbar	2016-2017
18	Member of Editorial Board of Iraqi Journal of Desert Studies	College of Engineering, University of Anbar	2016-2017
19	Editor in Chief of Iraqi Journal of Civil Engineering	College of Engineering, University of Anbar	since 2017
20	Member of Editorial Advisory Board of Journal of Civil Engineering, Science and Technology.	Faculty of Engineering ,University Malaysia Sarawak (UNIMAS), Malaysia.	since 2016

Third, University Teaching:

No.	University	The (Institute / College)	From -To

1	University of Anbar	College of Engineering-Civil Eng. Dept.	1998-2019
2	University of Anbar	Dams and Water Resources Engineering Dept.	2005-2019

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	Civil Eng. Dept.	Computer programming by GW-basic for 1st class	
2	Civil Eng. Dept.	Computer programming by q-basic for 2nd class	2001-2002
3	Civil Eng. Dept.	Design of reinforced concrete structures for 3d class	2002-2003
4	Civil Eng. Dept.	Construction materials for 1st class	2004-2005
5	Dams & Water Resources Eng. Dept	Design of reinforced concrete structures for 4th class	2005-2006 Until 2014-2015
6	Civil Eng. Dept.	Concrete techonology	2014-2015
7	Civil Eng. Dept.	Concrete techonology lab.	2014-2015
8	Dams & Water Resources Eng. Dept	Concrete techonology	2014-2015
9	Dams & Water Resources Eng. Dept	Introduction to design of reinforced concrete structures for	2014-2015 until now
10	Dams & Water Resources Eng. Dept	Dsign of hydrolic reinforced concrete structures	2014-2015 until now
11	Civil Eng. Dept. And Dams & Water Resources	Graduated Engineering Project (Supervised the Graduation	
12	Civil Eng. Dept.-MSc. Studies	Advanced Composite Materials	2006-2007
13	Civil Eng. Dept.-MSc. Studies	Advanced Concrete Technology	2007-2008
14	Civil Eng. Dept.-MSc. Studies	Advanced Concrete Technology	2007-2008
15	Civil Eng. Dept.-MSc. Studies	Advanced Ceramic	2008-2009
16	Civil Eng. Dept.-MSc. Studies	Durability of Reinforced Concrete Structures	2009-2019
17	Civil Eng. Dept.-MSc. Studies	Advanced Concrete Technology	2013-2019

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	Mechanical and Some Thermal Properties of Fiber Concrete Containing Polymer	Civil Eng. Dept./ University of Anbar	2008
2	Impact and Mechanical Properties of Ferrocement Modified by Polymer	Civil Eng. Dept./ University of Anbar	2009
3	Some Mechanical Properties of Lightweight Aggregate Reinforced by Carbon Fiber and	Civil Eng. Dept./ University of Anbar	2012
4	The effect of Adding Waste Plastic Fibers on The Mechanical Properties of Roller	Civil Eng. Dept./ University of Anbar	2012
5	The Possibility of Enhancing the Impact Strength Property of Ferro Cement Panels by	Civil Eng. Dept./ University of Anbar	2013
6	Shear Transfer of Concrete Members Strengthen by Woven FRP	Civil Eng. Dept./ University of Anbar	2013
7	The Effects of Adding Waste Plastic Fibers (WPF) on the Behavior of Self Compacted	Civil Eng. Dept./ University of Anbar	2017
8	Flexural Behavior of Polymer Modified Concrete Beams Containing Waste Plastic	Civil Eng. Dept./ University of Anbar	2017
9	Shear Behavior of Polymer Modified Concrete Beams Containing Waste Plastic Fibers (WPF)	Civil Eng. Dept./ University of Anbar	2018
10	Behavior of Glass FRP Reinforced Concrete Beams Having Carbon FRP Sheets Stirups	Civil Eng. Dept./ University of Anbar	2019
11	Mechanical Properties and Flexural Behavior of Polymer Modified Concrete Containing	Civil Eng. Dept./ University of Tikrit	2015
12	Behavior of High Performance Concrete By using Waste Plastic as Aggregate	Civil Eng. Dept./ University of Baghdad	2014

Sixth, Conferences which you participated**:**

No.	Conferences Title	Year	Place	Type of
1	INTERNATIONAL CONFERENCE ON ENGINEERING, MEDICINE AND APPLIED SCIENCES	2018	Harrington Park Resort Hotel, Turky, Antalia	Conference Paper
2	2018 11th International Conference on Developments in eSystems Engineering (DeSE)	2018	Cambridge, England	Conference Papers
3	The 3rd International Conference on Buildings, Construction and Environmental Engineering, BCEE3-2017	2017	Sharm el-Shiekh, Egypt	Conference Paper

4	The Fourth Scientific Engineering and First Sustainable Engineering Conference	2018	College of Engineering - Mustansiriyah University/ Baghdad, Iraq.	Conference Paper
5	The 10th Asia Pacific Conference on Sustainable Energy & Environmental Technologies (APCSEET 2015)	2015	University of Seoul, Korea., University of Seoul, Korea	Conference Paper
6	Scientific and Engineering Problems in Construction Technology , and Wastes Recycling Technology	2014	Belgorod State Technological University, Shukhov , Belgorod , Russia.	Conference Paper
7	international conference on nanoscience , engineering and management (BOND21)	2013	BAYVIEW BEACH RESORT, FERRINGHI BEACH, PANANG , MALAYSIA	Conference Paper
8	The International Conference to Achieve Sustainable Development in Iraq	2013	University of Baghdad - Baghdad, IRAQ	Conference Paper
9	11th International Conference on Concrete Engineering and Technology	2012	Putrajaya, Malaysia, Putrajaya (Aminist. Captial, Malaysia), Malaysia	Conference Paper
10	International Conference on Green Technology & Ecosystems for Global Sustainable Development 2012 (IGGTEG2012)	2012	UNIVERSITY OF TUZLA, BOSNIA AND ERZEGOVINA	Conference Paper
11	5th Jordanian International Civil Engineering Conference (JICEC'5)	2012	Amman, Jordan	Conference Paper
12	First Scientific Conference of College of Engineering	2011	College of Engineering, University of Anbar	Conference Paper
13	First Annual Scientific Conference of College of Engineering	2009	Babylon University Babylon, Iraq	Conference Paper
14	The First International Engineering Sciences Conference of Aleppo	2008	Aleppo , Syria	Conference Paper
15	6th International Conference of Concrete Technology in Development Countries	2002	Amman, Jordan	Conference Paper
16	1st Iraqi Conference of Civil Engineering	2001	Anbar, Iraq	Conference Paper

17	Second annual scientific conference of college of engineering	2009	Babylon University Babylon, Iraq	Conference Paper
18	1st international conference on engineering and innovative technology	2016	Erbil, Iraq	Conference Paper

Seventh, Scientific Activities:

Within the College	Outside the College
Editor in Chief of Iraqi Journal of Civil Engineering	**Member of Scientific Sobriety committee for Scientific Research and Publications (SSCSRP)**
	Member of Editorial Advisory Board of Journal of Civil Engineering, Science and Technology./ Faculty of Engineering ,University Malaysia Sarawak (UNIMAS), Malaysia.

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of	Year
1	*Production and optimization of eco-efficient self compacting concrete SCC with limestone and PET*. Construction and Building Materials 02/2019; 197(2019):734–746.,		*2019*
2	*Innovative Technique of Using Carbon Fibre Reinforced Polymer Strips for Shear Reinforcement of Reinforced Concrete Beams with Waste Plastic Fibers*. European Journal of Environmental and Civil Engineering 01/2019		*2019*
3	*The Effects of Adding Waste Plastic Fibers on the Mechanical Properties and Shear Strength of Reinforced Concrete Beams*, Iraqi Journal of Civil Engineering.		*2018*
4	*Modulus of elasticity and ultrasonic pulse velocity of concrete containing polyethylene terephthalate (Pet) waste heated to high temperature. Journal of Engineering Science and Technology 12/2018; 13(11):3577-3592.*		*2018*

5	*The Effects of adding Waste Plastic Fibers on the Flexural Toughness of Normal Concrete*. Journal of Engineering and Applied Sciences 12/2018; 13(24):10282-10290		*2018*
6	*Enhancing mechanical properties of no-fines concrete using waste plastic fibres*. Journal of Engineering and Applied Sciences 08/2018; 13(5):1210-1218		*2018*
7	*The effects of adding waste pet fibers on the some mechanical properties of cement mortar under exposure to elevated temperature*. Journal of Engineering and Applied Sciences 06/2018; 13(11):3985-3996		*2018*
8	*Importance of adding waste plastics to high-performance concrete*. Waste and Resource Management 04/2018; 171(2):1-65		*2018*
9	*The Effects of adding Waste Plastic Fibers on The Mechanical Properties and Shear Strength of Reinforced Concrete Beams, Iraqi Journal of Civil Engineering. Iraqi Journal of Civil Engineering. Vol.(12), Issue(1), 2018, pp:45-56*		*2018*
10	*Producing of eco-friendly lightweight concrete using waste polystyrene particles as aggregates with adding waste plastic, Iraqi Journal of Civil Engineering. Iraqi Journal of Civil Engineering. Vol.(12), Issue(1), 2018, pp:45-56*		*2018*
11	*Mechanical Properties And Flexural Behavior of reinforced Polymer Modified Concrete beams enhanced by Waste Plastic Fibers (WPF). Iraqi Journal of Civil Engineering. Vol.(11), Issue(2), 2017, pp:16-32*		*2017*
12	*The Effects of Adding Waste Plastic Fibers (WPFs) on Some Properties of Self Compacting Concrete using Iraqi local Materials. Iraqi Journal of Civil Engineering. Vol.(11), Issue(1), 2017, pp:1-20.*		*2017*
13	*Utilizing waste plastic polypropylene and polyethylene terephthalate as alternative aggregates to produce lightweight concrete: A review. Journal of Engineering Science and Technology, Vol. 11(8) August 2016*		*2016*
14	*The Possibility of Enhancing Some Properties of Self-Compacting Concrete by Adding Waste Plastic Fibers*. Journal of Building Engineering 07/2016; 8(2016):20-28.		*2016*
15	*The effect of adding waste plastic on some engineering properties of rollel compacted concrete. Iraqi Journal of Civil Engineering. Vol.(10), Issue(1), 2014, pp:31-39.*		*2014*
16	*Stress-Strain Relationship for Steel-Fiber Reinforced Polymer Modified Concrete under Compression. Iraqi Journal of Civil Engineering. Vol.(10), Issue(1), 2014, pp:17-30.*		*2014*

17	*Experimental and Numerical Investigation on Shear Transfer of Concrete Specimens Strengthened with CFRP Sheets under Tensile Forces", Al-Nahrain University- College of Engineering Journal 07/2015*		*2015*
18	*Mechanical Properties of High Performance Concrete Containing Waste Plastic as Aggregate. University of Baghdad Engineering Journal 09/2015; 21(8):100-115.*		*2015*
19	*BEHAVIOR OF FERROCEMENT SLABS CONTAINING WASTE PLASTIC FIBERS UNDER IMPACT LOADINGS*. Ciência e Técnica		*2015*
20	*Behaviour of Ferrocement Slabs Containing SBR Under Impact Loads. International Journal of Sustainable and Green Energy . Vol. 4, No. 3-1, 2015, pp. 34-50.*		*2015*
21	*Improving Impact and Mechanical Properties of Gap-Graded Concrete by Adding Waste Plastic Fibers. International Journal of Civil Engineering and Technology (IJCIET). Volume 4, Issue 2, March - April (2013), pp. 118-131*		*2013*
22	*Behaviour of Waste Fiber Concrete Slabs Under Low Velocity Impact. Iraqi Journal of Civil Engineering. Volume (9), Issue No.(1), 2013 ,pp:135-148*		*2013*
23	*Mechanical Properties of Carbon Fiber Lightweight Aggregate Concrete Containing Acrylic Polymer. ANBAR Journal for Engineering Sciences, Volume (6), No. (3), 2013. pp:358-373.*		*2013*
24	*Behaviour of Reinforced Polymer Modified High Strength Concrete Slabs under Low Velocity Impact. Iraqi Journal of Civil Engineering. Volume (9), Issue No.(1), 2013 ,pp:135-148*		*2013*
25	*Flexural Behaviour of Polymer Modified Reinforced Concrete Beams. Journal of Engineering and Development, Vol 13, No1, March (2009) , (89-109)*		*2009*
26	*Behavior of Polymer Modified Concrete Slabs under Impact. Iraqi Journal of Civil Engineering, 11th issue, June 2008.pp:1-24.*		*2008*
27	*Modeling of Polymer Modified-Concrete Strength with Artificial Neural Networks. Iraqi Journal of Civil Engineering, 10th issue, March 2007, pp: 47-68.*		*2007*
28	*Some Properties of No-Fines Polymer Concrete Hollow Blocks. Journal of Engineering and Development, Vol.(11), No (3), December 2007 , (1-13)*		*2007*
29	*Beahaviour of No-Fines Reinforced Polymer-Modified Concrete Beams. Iraqi Journal of Civil Engineering, 8th issue, June 2007,*		*2007*
30	*Influnce of Increasing Water: Cement Ratio on Concrete Containing Low Content of Polymer. Iraqi Journal of Civil Engineering, 6th issue, June 2005, pp:25-36.*		*2005*
31	*Sawdust Concrete & Its Mechanical Properties. Iraqi Journal of Civil Engineering, 5th issue, March 2004, pp:27-45.*		*2004*

Ninth, Membership

- Consultant engineer in the civil engineering department- Iraqi Engineers Union.
- Member of the Iraqi Teachers Union.
- Member of Association of University Lecturers in Iraq.
- Member in Federation of Arab Engineers.
- Member of Iraqi Forum of Inventors.

Tenth, Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1	Golden Medal	International Conference of Egypt Cooperation of Egyption Inventors Syndicate "Egypt Invents 2017"	
2	Award: Silver Medal Certificate from 9th International Invention Fair in Middle East (IIFME) in Class D of Inventions-	KUWAIT SCIENCE CLUB-KUWAIT	
3	Award: Medal for scientific excellence/	University of Anbar	2016
4	Award: Creativity and Innovation Award in the Field of Engineering (1st Winner) -	Republic of Iraq/ Ministry of Higher Education and Scientific Research	2014
5	Patent Title:"Improving Some Mechanical Properties of Concrete by Adding the Chips Resulting from Cutting the Plastic Beverage Bottles"	Republic of Iraq/ Ministry of Planning	2013
6	Patent Title:" Improving Shear Strength of Reinforced Concrete Beams by Adding Waste Plastic Fibers and Replacing the Steel Stirrups by CFRP Strips".	Republic of Iraq/ Ministry of Planning	2018

Eleventh, **Scientific literature:**

No.	Scientific Literature Title	Year of The Publication

1		

Twelfth, languages:

- ✓ Arabic
- ✓ English

CV

Name: Majeed Mattar Ramal

Date of Birth: 10/10/1975

Religion: Muslim

Martial statues: Married

No. of children: 5

Specialization: Environmental Engineering

Position: Lecturer

Scientific Degree: Assistant Professor

Work Address: University of Anbar

Work Phone:

Mobile:

E-mail: majeed.mattar@uoanbar.edu.iq

- **First,** Scientific **Certification:**

Degree science	University	College	Date
B.Sc.	Anbar	Engineering	1999
M.Sc.	Technology	Building and Construction	2002

No.	Career	Workplace	From -To
1	Assistant Lecturer	University of Anbar	2006 -2011
2	Lecturer		2011–2015

3	Assistant Professor		2015 –

- **Second,** Career**:**
- Third, University Teaching**.**

No.	University	The (Institute / College)	From -To
1	Anbar	College of Eng	2006 -

- Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	Dams	Water quality	2011
2	Dams	Math	2010
3	Dams	Sanitary &Env. Engineering	2014-2017
4	Dams	Leadership Skills	2014
5	Dams	Engineering Analysis	2013, 2016
6	Dams	Numerical Analysis	2013, 2016
7	Dams	Engineering Drawing	2016
8	Dams	Chemistry	2017
9			

- **Fifth, Thesis which was supervised by :**

No.	Thesis Title	Department	Year
1			

- **Sixth,** Conferences which you participated**:**

No.	Conferences Title	Year	Place	Type of Participation
1	1st Eng. Conf.	2012	Tourist City	Researcher

- **Seventh, Scientific Activities:**

Within the College	Outside the College
Scientific Committee	Engineering consultants

- **Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:**

No.	Research Title	Place of Publication	Year
1	Evaluation the drinking water quality supplied by the large	Alqadisya Journal for Engineering Sciences	2010
2	Possibility of using the western Iraqi silica sand at drinking water	Iraqi Journal for Civil Engineering	2011
3	**Evaluation wastewater effluent and it's effect on Al Warar canal**	Alanbar Journal for Engineering Sciences	2012
4	**The Effect of use the Silica Sand upon some mechanical properties**	Tikrit Journal for Engineering Sciences	2012
5	**Sand Dunes Stabilization Using Silica Gel and Cement kiln Dust**	Alnahrain Journal for Engineering Sciences	2015

- **Ninth, Membership:**

- **Tenth, Awards and Certificates of Appreciation:**

No.	Name of **Awards and Certificates**	Donor	Year
1	**Certificates about (25)**	**College of**	**2006-2017**

- **Eleventh, <u>Scientific literature:</u>**

No.	Scientific Literature Title	Year of The Publication
1		

- **Twelfth, <u>languages:</u>**

  - ✓ Arabic
  - ✓ English
  - ✓

CV

Name: Muhannad H. Ismail Aldosary

Date of Birth: Iraq – Ramadi – 06/11/ 1976.

Religion: Muslim

Martial statues: married.

No. of children: 3

Specialization: Structural Engineering

Position: lecturer

Scientific Degree: PhD

Work Address: University of Anbar

Work Phone:

Mobile: 00964 - 07802855350

E-mail: *:* muhannad_dosary@uoanbar.edu.iq

- **First,** Scientific **Certification:**

Degree science	University	College	Date
B.Sc.	University of Anbar	Collage of Engineering	1997-1998
M.Sc.	Baghdad University	Collage of Engineering	2001
Ph.D.	Swansea University	Collage of Engineering	2017

No.	Career	Workplace	From -To
1	M/S Engineering Consulting Bureau	University of Anbar	2000-2003

2	M/S. Design Center Architects & Engineers Consultant	Dubai, U.A.E.	**2003 -2006**
3	Structural Engineer	**Dubai Municipality** *Dubai, U.A.E.*	**2006-2011**
4	Lecturer	University of Anbar / Dam and Water resource Department	**2011-till now**

- **Second,** Career**:**
- Third, University Teaching**.**

No.	University	The (Institute / College)	From -To
1	University of Anbar	**Collage of Engineering**	**since 2011**

- **Fourth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:**

No.	Research Title	Place of Publication	Year
1	Torsional Stiffness of Straight and Curved Thin Walled Members with Warping Restrained	Journal of Tikrit University, Engineering Science Section	vol. 7, pp.31-44, April 2000
2	Structural reliability and stochastic finite element methods: State-of-the-art review and evidence-based comparison	**Engineering Computations**	**Vol.35 No.6, 2018 pp. 2165-2214**
3	EUROMECH COLLOQUIUM 584, MULTI-UNCERTAINTY AND MULTI-SCALE METHODS AND RELATED APPLICATIONS	**Conference in** Porto, Portugal.	13 September – 16 September 2016
4	Structural reliability and stochastic finite element analysis	European Congress on Computational Methods in Applied Sciences and Engineering ECCOMAS Congress Crete, Greece.	June 5-10, 2016,

5	A comparison study on stochastic finite element methods for structural reliability analysis.	ACME, Proceedings of the 23rd UK Conference of the Association for Computational Mechanics in Engineering.	8 – 10 April 2015,

- **fifth, <u>Membership</u>:**

  - **Member of Iraqi Engineer's Association ,since 1998.**
  - **Member in U.A.E. - Society of Engineers in 2005.**

CV

Name: Ayad Saeed Aadi

Date of Birth: 25-01-1966

Religion: Muslim

Martial statues: Marred

No. of children: Four

Specialization: Civil Engineering

Position: Tenured professor

Scientific Degree: Lecturer Ph.D.

Work Address: College of Engineering - University of Anbar

Work Phone: 07802418309

Mobile: 07802418309

E-mail: ayad_saeed@yahoo.com, ayad_saeed@uoanbar.edu.iq

- **First,** Scientific **Certification:**

Degree science	University	College	Date
B.Sc.	Al Rasheed	Civil Engineering	1997
M.Sc.	Al Technology	Consitraction and Material	2005
Ph.D.	Pune-India	Sinhegad Engineering	2017

No.	Career	Workplace	From -To
1	Site Engineer	Ministry of Defence	1987-1996
2	Advisor	Ministry of Constriction & Housing	1996-2006

3	Lecturer	Ministry of Higher Education and Research	2006-2019

- **Second,** Career**:**
- Third, University Teaching**.**

No.	University	The (Institute / College)	From -To
1	Al Anbar	Engineering	2006-Now

- Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	Civil , Dams &water resource	Mechanics Engg.	2006
2	Dams &water resource	Statistic Engg.	2007
3	Dams &water resource	Technology Building materials	2008
4	Dams &water resource	Concrete technology.	2009
5	Dams &water resource	Concrete technology, Technology Building materials, Leadership Skills.	2015
6	Dams &water resource	Concrete technology, Technology Building materials, computer science.	2016
7	Dams &water resource	Concrete technology, Technology Building materials, computer science.	2017
8	Dams &water resource	Concrete technology, Estimation	2018-2019

-

- **Fifth, Thesis which was supervised by :**

No.	Thesis Title	Department	Year
1			

- **Sixth, Conferences which you participated:**

No.	Conferences Title	Year	Place	Type of Participation
1	ACE-2011	2011	KL University- India	Technical paper

- **Seventh, Scientific Activities:**

Within the College	Outside the College

- **Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:**

No.	Research Title	Place of	Year
1	Properties of Ultra-High-Performance Fiber-Reinforced Concrete (UHPFRC)		2019
2	Empirical Formulation for Prediction of Flexural Strength of Reinforced Concrete Composite Beams	India	2017
3	Strength model for shear stud	India	2014
4	Effect of width and layers of GFRP strips on deflection of Reinforced Concrete – GFRP	India	2014
45	Experimental study of cracking and slip behavior of reinforced concrete beams strengthened by gfrp	India	2014
6	Performance evaluation of shear stud connectors in composite beams with steel plate and RCC slab	India	2011

- **Ninth, Membership:**

  - **Iraqi Engineers Union .. Consultant Engineer**

-

- **Tenth, Awards and Certificates of Appreciation:**

No.	Name of **Awards and Certificates**	Donor	Year
1	**Tenth**	**Al Anbar University**	**2018**
2	Tenth	**College of Engineering**	2017
3	Tenth	Iraqi consultant Mumba	2014

- **Eleventh, Scientific literature:**

No.	Scientific Literature Title	Year of The Publication
1		

- **Twelfth, languages:**

  - ✓ English
  - ✓ Indian
  - ✓
  - ✓

No.	University	The (Institute / College)	From -To

CV

Name: **Safaa Ahmed Ibrahim**

Date of Birth: **6/1/1991**

Religion: Muslim

Martial statues: **Single**

No. of children: -

Specialization: **Civil Engineering/ Water Resources**

Position: Lecturer

Scientific Degree: Assist. Lecture

Work Address: **Anbar University/College of Engineering/ Dams and Water Resources Department**

Work Phone:

Mobile: **07811034698**

E-mail: **asafaa42@yahoo.com**

- **First,** Scientific **Certification:**

Degree science	University	College	Date
B.Sc.	Anbar	Engineering	2012
M.Sc.	Anbar	Engineering	2015

- **Second,** Career:

No.	Career	Workplace	From -To
1			

- Third, University Teaching.

1	Anbar University	College of Engineering	From 25/12/2016

Fourth, Courses Which You Teach:

No.	Department	Subject	Year
1	Dams and Water Resources	Math.2+APPlication of Computer+	2016- 2017
2	Dams and Water Resources	**Math1+*Hydraulic Machines*+Econamic1**	2017-2018

- **Fifth, Thesis which was supervised by :**

No.	Thesis Title	Department	Year
1			

- **Sixth,** Conferences which you participated:

No.	Conferences Title	Year	Place	Type of Participation
1				

- **Seventh, Scientific Activities:**

Within the College	Outside the College

- **Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:**

No.	Research Title	Place of Publication	Year
1	Calculation of Optimal Height and Number of Small Dams	Australian Journal of Basic and Applied Sciences	2014

- **Ninth, Membership:**
- **Tenth, Awards and Certificates of Appreciation:**

No.	Name of Awards and Certificates	Donor	Year
1	Acknowledgement	Assist President of	2016
14			

- **Eleventh, Scientific literature:**

No.	Scientific Literature Title	Year of The Publication
1		

- **Twelfth, languages:**

✓ Arabic
✓ English
✓

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Ahmed Amin Jubair

Date of Birth: December, 3rd ,1963

Religion: Muslim

Martial statues: Married

No. of children: 2

Specialization: Geotechnical Engineering

Position: Facility member

Scientific Degree: M.Sc

Work Address: University Of Anbar /College Of Engineering/Dam and Water Resources Dep.

Work Phone:

Mobile: 07806757694

E-mail:jubair1a@uoanbar.edu.iq

First: Scientific **Certification:**

Degree science	University	College	Date
BSc	University of Technology	Building and Construction	1986

MSc	University of Technology	Building and Construction	2000

Second: Career:

No.	Career	Workplace	From -To
1	*Assistant Lecturer*	College of Engineering- University of	2005-2011

Third: University Teaching:

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	2005-2019

Fourth: Courses Which You Teach:

No.	Department	Subject	Year
1	Dam &Water Resources	Soil Mechanics	2005-2019
2	Dam &Water Resources	Water Resources Economics	2005-2012
3	Dam &Water Resources	Foundation Engineering	2012-2018
4	Dam &Water Resources	Engineering and Numerical Analysis	2005-2006
5	Dam &Water Resources	Engineering Managements	2005-2008
6	Dam &Water Resources	Estimating and Contracts	2002 -2005
7	Dam &Water Resources	Dams Design	2005-2009
8	Electrical Engineering	Mathematics I	2005-2007
9	Dam &Water Resources	Engineering Economics	2005-2008

Fifth: Thesis which was supervised by:

No.	Thesis Title	Department	Year
1			

Sixth: Conferences which you participated:

No.	Conferences Title	Year	Place	Type of Participation
1	Golden Jubilee of Mosul	2012	Mosul City	Researcher
2	1st Int. Scientific. Conf. for GGI Geotechnical G. Iraqi.	2018	Baghdad City	Partnership

Seventh: **Scientific Activities:**

Within the College	Outside the College
Scientific Committee **Examination Committee**	**Engineering consultants**

Eighth: Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	"Hyperbolic Stress- Strain Parameters for nonlinear Finite Element analyses of stone column	Iraqi Journal for Civil Engineering Sciences	2005
2	Analysis of stone column in soft soil by finite element method	Iraqi Journal for Civil Engineering	2007
3	Study of collapses and cracks of buildings implemented on clay soils	Iraqi Journal for Civil Engineering Sciences	2009
4	Evaluation and management study for the project of Massad dam in	The Iraqi Journal for mechanical and material	2010
5	Reduce the permeability of concrete used in marine structures	The Second Engineering Conference of the Golden	2013
6	Development of a mathematical model to represent the sediment at	Iraqi Journal for Civil Engineering	2012

7	Sand Dunes Stabilization Using Silica Gel and Cement kiln Dust	Al Nahrin Journal for Civil Engineering	2016

Ninth: Membership

- **A consultant and member of the Iraqi Engineers Union**

Tenth: Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1			
2			

Eleventh: **Scientific literature:**

No.	Scientific Literature Title	Year of The Publication
1		

Twelfth: **languages:**

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Ahmed Tareq Noaman

Date of Birth: 23/8/1980

Religion: Muslim

Martial statues: Married

No. of children: 1

Specialization: Construction Technology

Position: Faculty member

Scientific Degree: Ph.D

Work Address:

Work Phone:

Mobile: 07813454357

E-mail: ahmed.noaman@uoanbar.edu.iq

atn_en@yahoo.com

First, Scientific **Certification:**

Degree science	University	College	Date
Bachelor of Civil Engineering	University of Anbar	Engineering	1998-2002
Master of Science	University of Anbar	Engineering	2002-2005

Doctor of Philosophy	Universiti Sains Malaysia (USM)	Civil Engineering	2013-2017

Second, Career**:**

No.	Career	Workplace	From -To
1	Part time Lecturer	University of Anbar, Civil Engineering Department	2005
2	Assistant Lecturer	University of Anbar, Dams and Water Resources Engineering Department	2005-2010
3	Senior Lecturer	University of Anbar, Dams and Water Resources Engineering Department	2010 till now

Third, University Teaching**:**

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	20005 till now

Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	Civil Engineering	Steel structures	2004 – 2005
2	Dams and Water Resources Eng.	Steel structures	2005-2006, 2010-2011, 2017-2018, 2018-2019
3	Dams and Water Resources	Strength of materials	From 2005 until 2010 and 2017-2018
4	Dams and Water Resources Eng.	Eng. Analysis & Numerical Methods	From 2007 until 2010
5	Civil Engineering	Eng. Analysis & Numerical Methods	2006-2007

6	Dams and Water Resources Eng.	Computer Programming	2005-2006
7	Dams and Water Resources Eng.	Mathematics I	2009-2010
8	Dams and Water Resources Eng.	Calculus I	2017-2018, 2018-2019
9	Electrical Engineering	Calculus I	2017-2018
10	Dams and Water Resources Eng.	Calculus II	2017-2018
11	Dams and Water Resources Eng.	Final year project	Since 2005 till now

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	None		

Sixth, Conferences which you participated**:**

No.	Conferences Title	Year	Place	Type of Participation
1	Babylon 2nd conference	2010	University of Babylon – Iraq	presenter
2	Anbar Eng. 1st conference	2011	University of Anbar	presenter
3	Civil Eng. Conf. International	2012	Amman- Jordan	presenter
4	AWAM international conference	2015	USM – Malaysia	presenter
5	EACEF-5 Conference	2015	Indonesia	presenter
6	CONET 13 conference	2016	UiTM – Malaysia	presenter
7	3rd creative final year project conference	2011	University of Anbar	presenter
8	2018 11th International Conference on Developments	2018	UK	presenter

Seventh, Scientific Activities:

Within the College	Outside the College
• Head of the Scientific Affairs and Graduate Studies Unit in College of Engineering from February 2018).	
• Appointed as a Rapporteur of the council of college of engineering from 2007 until 2012.	
• Consultant of the construction materials and structures laboratory under the engineering bureau of the college of engineering from 2007 until 2011.	

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1			

Ninth, Membership

- **Iraqi engineers union**

Tenth, Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1	The typical lecturer, College of Engineering	University of Anbar	2009

2	Sanggar Sanjung Award for journal publication 2016	Universiti Sains Malaysia	2017
3	The Science Day award, 1st rank	Ministry of higher Education and Scientific Research	2018

Eleventh, <u>Scientific literature:</u>

No.	Scientific Literature Title	Year of The Publication
1	**Al – Ejbari , A.T. N**., Faris, H.A., and Al – Jumaily, I.A." Geometric Non – Linear Analysis of Non – Prismatic Members Resting on Elastic Foundation". Iraqi Journal of Civil Eng., Al – Anbar Univ., college of Eng., Iraq, Vol.7, No.2	2007
2	Aziz, K.I., & **Al – Ejbari , A.T.N.** "Analysis of Multi-Layer Composite Simply Supported Beam Under Blast Loading", Al – Anbar Journal of Engineering Sciences. University of Anbar – Iraq, Vol.2, No. 2	2008
3	**Al – Ejbari,A.T.N.** "Elastic Buckling of Slender Non – Prismatic Piles Partially or Completely Embedded in Elastic Foundation Soil Using the	2011
4	Al – Hadithi, A.I, & **Al – Ejbari,A.T.N.** " A Study on Some Properties of Concrete Containing Styropor" , 2nd Babylon Eng. Conference , Vol.E, March	2010
5	Abdulrahman, A. I., Al-Hadithi, A.I., & **Al-Ejbari, A.T.N.** "Behaviour of Reinforced Polymer Modified High Strength Concrete Slabs under Low Velocity Impact". Anbar Journal for Engineering Sciences	2011
6	Mahmoud K.M. Al-Ani, A.I. Al-Hadithi, **Ahmed Tareq Noaman** "Study Some Properties of Concrete Containing Industrial Styrobore and Modified by Polymer", First Scientific Conference of College of Engineering, At Iraq, Anbar	2011
7	**Ahmed Tareq Noaman** "Estimation of stability functions of non-prismatic members resting on elastic foundation using tapered segments", The 5th Jordanian International Civil Engineering Conference	2012
8	Al-Hadithi,A.I., **Noaman, A.T.** and Jamil G. S. "Behaviour of waste fiber concrete slabs under low velocity impact". Iraqi Journal of Civil Engineering; University of Anbar; Vol.9	2013
9	**Noaman, A. T**., Bakar, A., Hisham, B., & Akil, H. M. Influence of Crumb Rubber on Impact Energy of Steel Fiber Concrete Beams. In Applied Mechanics and Materials (Vol. 802, pp. 196-201). Trans Tech Publications	2015

10	**Noaman, A. T**., Bakar, B. A., & Akil, H. M. The Effect of Combination between Crumb Rubber and Steel Fiber on Impact Energy of Concrete Beams. Procedia Engineering, 125, 825-831.	2015
11	**Noaman, A. T.**, Bakar, B. A., & Akil, H. M. . Experimental investigation on compression toughness of rubberized steel fibre concrete. Construction and Building Materials, 115, 163-170.	2016
12	**Noaman, A. T.,** Bakar, B. A., Akil, H. M., & Alani, A. H. Fracture characteristics of plain and steel fibre reinforced rubberized concrete. Construction and Building Materials	2017
13	**Noaman, A. T.**, Abu Bakar, B. H., & Md. Akil, H. Investigation on the mechanical properties of rubberized steel fiber concrete. Engineering Structures and Technologies, 9(2), 79-92.	2017
14	Bakar, B. A., **Noaman, A. T.**, & Akil, H. M. Cumulative Effect of Crumb Rubber and Steel Fiber on the Flexural Toughness of Concrete. Engineering, Technology & Applied Science Research, 7(1), 1345-1352.	2017
15	**Noaman, A. T.**, Bakar, B. A., & Akil, H. M. Flexural Static Energy of Steel Fiber Rubberized Concrete Beams with Layered Distribution. In 2018 11th International Conference on Developments in eSystems Engineering (DeSE) (pp. 318-323). IEEE.	2018
16	Alani, A. H., Bunnori, N. M., **Noaman, A. T.,** & Majid, T. A. (2019). Durability performance of a novel ultra-high-performance PET green concrete (UHPPGC). Construction and Building Materials, 209, 395-405	2019

Twelfth, <u>languages:</u>

- ✓ Arabic
- ✓ English
- ✓ Malay

College of Engineering
Academic Accreditation Committee

CV

UNIVERSITY OF ANBAR
COLLEGE OF ENGINEERING

Staff C.V

Name: Aseel Madallah Mohammed

Date of Birth: 09/01/1981

Religion: Muslim

Martial statues: Widow

No. of children: 1

Specialization: Concrete Technology and Design

Position: Faculty member

Scientific Degree: Ph.D.

Work Address: University of Al-Anbar/Dams and Water resources Department

Work Phone:

Mobile: 009647806014743

E-mail: aseel.mohammed@unoanbar.edu.iq or aseelrawan11@yahoo.com

First, Scientific **Certification:**

Degree science	University	College	Date
Bachelor of Civil Engineering	University of Anbar	Engineering	1998-2002

Master of Science	University of Anbar	Engineering	2002-2005
Doctor of Philosophy	Gaziantep university	Civil Engineering	2013-2017

Second, Career**:**

No.	Career	Workplace	From -To
1	Part time Lecturer	University of Anbar, Civil Engineering Department	2005
2	Assistant Lecturer	University of Anbar, Dams and Water Resources Engineering Department	2005-2010
3	Senior Lecturer	University of Anbar, Dams and Water Resources Engineering Department	2010 till now

Third, University Teaching**:**

No.	University	The (Institute / College)	From -To
1	University of Anbar	College of Engineering	20005 till now

Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	Dams and Water Resources Eng.	Building materials	2005 – 2011,2018-2019
2	Dams and Water Resources Eng.	Concrete Technology	2005-2008
3	Dams and Water Resources	Concrete Design	2005-2006
4	Dams and Water Resources Eng.	Building Construction	2005-2013 , 2018-2019

5	Dams and Water Resources Eng.	Engineering Statistic	2017-2018
6	Dams and Water Resources Eng.	Physics1	2018-2019
7	Dams and Water Resources Eng.	Final year project	Since 2005 till now

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1	None		

Sixth, Conferences which you participated**:**

No.	Conferences **Title**	Year	Place	Type of Participation
1	Anbar Eng. 1st conference	2011	University of Anbar – Iraq	presenter
2	Civil Eng. Conf. Nineveh,Mousil	2013	University of Mousil	presenter
3	Civil Eng. Conf. Engineering and Sustainable Development	2018	Mustansiriya University	presenter
4	International Conference on Engineering (ISRA)	2018	Turkiye	presenter

Seventh, Scientific Activities:

Within the College	Outside the College
•	

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1			

Ninth, Membership

- **Iraqi engineers union**

Tenth, Awards and Certificates of Appreciation**:**

No.	Name of Awards and Certificates	Donor	Year
1			

Eleventh, **Scientific literature:**

No.	Scientific Literature Title	Year of The Publication
1	**Aseel Madallah Mohammed**." Effect of sulphate on the mix concrete Iraqi Journal for Civil Engineering, Vol.7 , No.2	2010
2	**Aseel Madallah Mohammed**.,Nahla Naji Hilal" Re-using the by-product of cement industry cement kiln dust to produce the concrete, Alanbar Journal for Engineering Sciences	2010
3	**Aseel Madallah Mohammed**,Mohammed Trad Nawar ,Aseel Hussam AL-Dain." Testing the efficiency of cement mills using local additives,,	2011
4	**Aseel Madallah Mohammed**." Reduce the permeability of concrete used in marine structures, 1st Nineveh conf.	2013
5	**Aseel Madallah Mohammed**.,Ammar Ahmed Humadi" Effect of Adding The Plastic Waste as Fibers on Mechanical Properties of Concrete, Journal of Engineering and Sustainable Development,Vol.22No.2	2018
6	**Aseel Madallah Mohammed**.,Ammar Ahmed Humadi ,AbdulkaderIsmail Abdulwahab"The Possibility of waste plastic reinforced eco-friendly recycled aggregate concrete ", International journal of engineering and technology	2018

Twelfth, **languages:**

- ✓ Arabic
- ✓ English
- ✓ Turkish

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Mohammed T. Nawar

Date of Birth: September, 5th, 1982

Religion: Muslim

Martial statues: Married

No. of children: 1

Specialization: Structural Engineering

Position: Faculty member

Scientific Degree: Master

Work Address: College of Engineering / University of Anbar

Work Phone:

Mobile: 07815470993

E-mail: mohammed_nawar82@yahoo.com

First, Scientific **Certification:**

Degree science	University	College	Date
MSc	University of Anbar	Engineering	2009
BSc	University of Anbar	Engineering	2003-2004

No.	Career	Workplace	From -To

1	**Lecturer**	College of Engineering, University of Anbar	2009-Still
2	**Site Engineer**	International Relief and Development Organization / Ramadi	2007-2009
3	**Lab. Engineer**	ENGINEERING CONSULTING BUREU / University of Anbar	2006-2007
4	**Site Engineer**	Horan Dam/2 , Western Desert, Anabr	2004-2006

Second, Career**:**

Third, University Teaching**:**

No.	University	The (Institute / College)	From -To
1	**University of Anbar**	Engineering	2009-2019
2			

Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	**Dams and Water Resources**	Concrete Design , Strength of Materials	2018-2019
2	**Dams and Water Resources**	Concrete Design , Dynamics, Statics	2016-2019
3	**Civil Engineering**	Dynamics, Statics	2016-2017
4	**Dams and Water Resources**	Theory of Structures, Str. of Materials	2012-2013
5	**Dams and Water Resources**	Strength of Materials, Statics	2009-2012

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1			

Sixth, Conferences which you participated**:**

No.	Conferences Title	Year	Place	Type of Participation
1	First Engineering Conference	2012	Anbar	Conf. paper

Seventh, **Scientific Activities:**

Within the College	Outside the College

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	Study on Flexural Behavior and Cracking of Ferro-cement Slabs by	Iraqi Journal of civil	2019
2	BENEFICIAL ROLE OF GLASS WASTES IN CONCRETE	Al Mustansiriya Journal of	2018

Ninth, Membership

- **Member of Iraqi Engineer's Union ,since 2005**

Tenth, Awards and Certificates of Appreciation**:**

No.	Name of Awards and Certificates	Donor	Year
1			

Eleventh, **Scientific literature:**

No.	Scientific Literature Title	Year of The Publication
1		

Twelfth, languages:

- ✓ Arabic
- ✓ English

College of Engineering
Academic Accreditation Committee

CV

COLLEGE OF ENGINEERING

Staff C.V

Name: Uday Hateem Abdulhameed Mohamed Al-Gazan

Date of Birth: Iraq – Ramadi – 24/6/ 1976.

Religion: Muslem

Martial statues: married.

No. of children: 3

Specialization: Water resources engineering

Position: lecturer

Scientific Degree: lecturer

Work Address: al anbar university

Work Phone:

Mobile: 00964 - 07809410321

E-mail: : unma2006@yahoo.com

First, Scientific **Certification:**

Degree science	University	College	Date
B.Sc.	AL-Anbar University	Collage of engineering	1997-1998 .
M.Sc.	AL-Anbar University	Collage of engineering	2001

No.	Career	Workplace	From -To

1	**Lecture**	**Dams &Water Resource department - Collage of engineering – AL-Anbar**	**since 2002**
2			
3			

Second, Career**:**

Third, University Teaching**:**

No.	University	The (Institute / College)	From -To
1	**AL-Anbar University**	**Collage of engineering**	**since 2002**
2			
3			

Fourth, Courses Which You Teach**:**

No.	Department	Subject	Year
1	**civil engineering Department and water resource dep.**	**mathematical 1**	
2	**civil engineering Department and water resource dep.**	**mathematical 2**	
3	**civil engineering Department and water resource dep.**	**engineering analysis**	
4	**civil engineering Department and water resource dep.**	**fluid mechanics**	
5	**civil engineering Department and water resource dep.**	**engineering mechanics**	
6	**civil engineering Department and water resource dep.**	**- hydraulic structures**	
7	**water resource dep.**	**Open channel flow**	

Fifth, Thesis which was supervised by:

No.	Thesis Title	Department	Year
1			

Sixth, Conferences which you participated**:**

No.	Conferences Title	Year	Place	Type of Participation
1	**1st scientific Conference ,center of desert studies -Al-**	2010	**AL-Anbar**	Search

Seventh, Scientific Activities:

Within the College	Outside the College

Eighth, Research Projects in The Felid of Specialization to The Environment and Society or the Development of Education:

No.	Research Title	Place of Publication	Year
1	**●" influence of the groins on manning coefficient in**	**,Iraqi Journal of civil Engineering,**	**vol. 6 –No. 2 , June 2010 .**
2	**●" limitation of the value of coefficient of manning for**	**1st scientific Conference ,center of desert studies -Al-**	**2010**
3	**●" influence of channel width on bed load transport stably**	**Iraqi Journal of civil Engineering.**	2012
4			
5			

Ninth, Membership

- **Member of Iraqi Engineer's Association ,since 1998**

Tenth, Awards and Certificates of Appreciation:

No.	Name of Awards and Certificates	Donor	Year
1			

APPENDIX C – EQUIPMENT

1. SURVEYING LABORATORY

INTRODUCTION

The Surveying Laboratory enables students to understand the basic principles of surveying by conducting field exercises using surveying equipment. Most of the field exercises are conducted outside the laboratory room to gather field survey data using state-of-the-art surveying equipment. Reduction and calculation of the field data for final results are performed in the laboratory room.

The field exercises to be done are discussed and explained to students by the laboratory instructor inside the surveying laboratory room prior to the commencement of field surveys. Care and proper handling of surveying equipment is also emphasized before, during and after the field survey.

EQUIPMENT AND INSTRUMENTS

1- Determination and establishing points using conventional taping
2- Measuring distances using pacing and conventional taping
3- Leveling with an auto level and high rod
4- Direct differential leveling
5- Profile leveling
6- Cross section
7- Theodolite
8- Measuring horizontal angle by direction method
9- Trigonometric leveling
10- Total station application
11- Traversing measuring and adjustment

EXPERIMENTS

1- Total station
2- Measuring distances using total station.
3- Measuring area using total station
4- Area computation (map)
5- Total station application
6- Volume computation using total station
7- Layout horizontal curve

8- GPS application
9- Type of remote sensing data.
10- GIS program
11- Hydrographic measurements

2. FLUID MECHANICS AND WATER RESOURCES LABORATORY

INTRODUCTION

The Fluid Mechanics and Water Resources Laboratory contains modern instruments and apparatuses for teaching and research purposes. Some of the instruments and equipment can well be utilized for industrial use with minor modifications. The laboratory is supervised by experienced teaching staff and technicians with services meeting the highest of international standards.

EQUIPMENT AND INSTRUMENTS

1- Pelton Wheel
2- Bernoulli's Apparatus
3- Center of Pressure Apparatus
4- Open Channel-Flow
5- Reynolds Apparatus
6- Rainfall-Runoff Hydrographic Apparatus
7- Network of Pipe Apparatus
8- Friction Losses in Pipes Apparatus
9- Impact of Jets Apparatus

EXPERIMENTS

1- Fluid Properties: Viscosity, Density and Specific Gravity
2- Calibration of Pressure Gages
3- Hydrostatic Forces and Ventre of Pressure
4- Verification of Bernoulli's Principle
5- Osborne Reynolds
6- Impact of Jets
7- Losses in Pipes and Fittings

TESTS AND SERVICES

1- Calibration of Pressure Gauges
2- Determination of Density, and Specific Gravity, Dynamic and Kinematic Viscosity of Different Liquids
3- Measuring of Flows through Pipes and Open Channels
4- Investigation of Flow Types
5- Simulation of Hydroelectric Power Generation by Studying Impact of Jets on Belton Wheel

3. ENVIRONMENTAL LABORATORY

INTRODUCTION

The Environmental Laboratory carries out scientific investigations on fresh and marine water quality, wastewater treatment, industrial waste management, solid waste management, environmental impact monitoring, environmental information systems, geo-environmental studies, and environmental site investigations.

EQUIPMENT AND INSTRUMENTS

1- ATOMIC ABSORPTION SPECTROPHOTOMETER
2- Flame Photometer, digital, fitted with electronic flame fail safe and supplied with (Na, K, Li, Ca & Ba) filters, connecting hoses and operating /services manual, for use on 230V 50/60Hz
3- BOD Incubator
4- COD Reactor
5- Turbidity Meter
6- pH Meter
7- UV/Visible range ,1.5 nm SBW Spectrophotometer fitted with an automated five position cuvette holder
8- Spectrophotometer
9- Jar Tester, Six-Paddle stirrer
10- CE 117 Flow through particle Layers
11- CE 115 Fundamentals of Sedimentation

TESTS AND SERVICES

1- Heavy metals Ions
2- Test of Ca,Mg, Na ,K,Li
3- BOD_5
4- COD
5- Turbidity
6- pH
7- Ions of Elements
8- Optimum Alum Dose
9- Porous Media Flow
10- Principles of sedimentation

4. MECHANICS OF MATERIALS LABORATORY

INTRODUCTION

The Mechanics of Materials Laboratory for the Dams & Water Engineering Department is equipped with different educational and training set-ups to support the theoretical part of education. The main objective of the Mechanics of Materials Laboratory is to teach students both the basic principles and the advanced concepts of mechanics of materials. The educational and training set-ups in the lab put theory into practice and students become more interested and involved in various subject matter.

EQUIPMENT AND INSTRUMENTS

1- flexural Machine
2- Compression Machine (Philips)
3- Compact Core Drill
4- Pundit Plus
5- Concrete Test Hammer
6- Drying oven
7- Muffle Furnaces
8- Vibrating Poke
9- Sieve Shaker
10- Howden(Water Bath)
11- Electronic Balances
12- Soil test Balance)
13- Rapid Analysis Machine (RAM) (ELE)
14- Machine Laboratory Jaws Crush

15- Machine Tension test (Hounsfield)
16- Vicat (ELE&Control & Soil test)
17- Flow Table (ELE)
18- Gillmore (Soil test)
19- Le Chatelier
20- Heat of Hydration
21- Plaster Extensometer
22- Compacting Factor
23- Air Entrainment
24- Concrete Mixer
25- Split Cylinder Test Platens
26- Compressometer (Modulus of Elasticity)
27- Mill Aggregate (Retsch)

TESTS AND SERVICES

1- Compressive Strength of Bricks
2- Water absorption of Bricks
3- Efflorescence test of Bricks
4- Standard Consistence of Plaster
5- Compressive Strength of Plaster
6- Static bending of Plaster
7- Soundness of Plaster
8- Face and shape of tiles
9- Total Absorption of tiles
10- Modulus of rapture of tiles
11- Compressive of Timber
12- Tension test
13- Consistence of standard paste
14- Determination of Initial and Final Setting Time
15- Determination Soundness of Cement
16- Determination of Compressive Strength of Cement Using Mortar
17- Testing Organic Impurities in Sand
18- Sieve analysis
19- Determination of relative density and water absorption
20- Determination of bulk density voids and bulking of aggregate
21- Aggregate crushing value
22- Mixing and Sampling Fresh concrete in laboratory

23- Slump test
24- Determination of compacted density of fresh concrete
25- Making, Caring, and testing compression test cubes
26- Making, Caring, and testing of flexural strength of concrete
27- Making, Caring, and testing splitting tensile strength of concrete

5. SOIL LABORATORY

INTRODUCTION

The laboratory building consists of a large hall that includes all laboratory equipment, in which all examinations are conducted, except for chemical tests, with dimensions of 20 * 30 m. And from a room with dimensions of 4 * 7 m (4 rooms) designated for laboratory administration and chemical testing work. The laboratory building belongs to the College of Engineering - Anbar University

EQUIPMENT AND INSTRUMENTS

1. Pycnometer.
2. Balance capacity 500g accuracy 0.1g.
3. Vacuum pump.
4. Water bath.
5. Drying Oven.
6. Balance (capacity 1 kg accuracy 1g).
7. Set of standard sieves.
8. Brush.
9. Sieve shaker.
10. Standard hydrometer.
11. Graduated cylinders (capacity 1000 cc)
12. Balance (capacity 100g accuracy 0.1 g).
13. High speed stirrer.
14. Thermometer (range to 50 0c, accuracy 0.1 0c).
15. Stopwatch.
16. Sand replacement apparatus.
17. Digging tools.
18. Balance (capacity 25kg accuracy 10 g).
19. Balance (capacity 200g accuracy 0.01g).
20. Liquid limit device, grooving tool, glass plate balance (0.01g sensitivity), oven, spatula, wash bottle.

21. Shrinkage dish (circular flat bottom diameter about 44.5 mm and height about 13 mm).
22. Evaporating dish.
23. Spatula.
24. Volume measuring apparatus.
25. Balance 500g capacity and 0.1g accuracy.
26. Standard Proctor mold with base plate and collar.
27. Rammer weight 2.5 kg with fall of 30 cm.
28. Permeameter.
29. Constant head reservoir, Standpipes.
30. Permeameter mold.
31. Consolidation unit (Odometer), specimen trimmer and accessories. Device Sensitivity).
32. Direct shear box and accessories – a metal box in two halves, bottom plate, metal plates with serration, locking pins, loading cap, spacing screws. Direct shear machine – with facilities to apply normal and shear load on the shear and vertical displacement of the soil sample slide calipers.
33. Unconfined compression testing machine with proving ring.
Triaxial cell.

TESTS AND SERVICES

A. Soil physical and classification tests
1. Natural water content
2. Sieve and hydrometer analysis
3. Texture limits (Atterberg limits)
4. The specific gravity of the soil
5. The total and dry density of the soil

B. Soil Chemical tests
1. Sulfate content
2. The content of total soluble salts
3. Gypsum content
4. Content of organic matter
5. Chloride content
6. PH

C. Soil Strength tests
1. Triaxial compression test
2. Unconfined compression test
3. Direct shear test
4. Compaction test (laboratory maximum density)

5. Consolidation test.
6. Permeability test. (Constant and variable head tests)
   CBR (Soaked and Un-soaked tests)

APPENDIX D – INSTITUTIONAL SUMMARY

1. The Institution

a. Name and address of the institution:
University of Anbar
Ramadi City/ Anbar
P.O. Box: 27272

b. Name and title of the chief executive officer of the institution:
Prof. Dr. Mushtaq Talib Saleh, Chancellor

c. Name and title of the person submitting the Self-Study Report:
Ast. Prof. Dr. Zaid Al-Azzawi, DWE Department.

d. Name the organizations by which the institution is now accredited, and the dates of the initial and most recent accreditation evaluations:
The University of Anbar is not accredited before.

2. Type of Control

Governmental Control

3. Educational Unit

a. College/ Department Overview

The College of Engineering / Anbar University was established in 1987 to be one of the important scientific establishments in this country. It is concerned with the graduation of many qualified engineers in the fields of civil engineering, mechanical engineering, dam and water resource engineering, electrical and chemical engineering, in order to serve the general orientations of the state and society, as well as the preparation of scientific research in all engineering fields to support development plans and ages .

The College has an important role in serving the community through the services provided by the Advisory Office of the College and the training and development courses for engineers and technicians in the departments of Anbar province. It relies on the use of mathematics, empirical, scientific, economic, social and knowledge manuals for the invention, Improved structures, machines, tools, systems, components, materials, and processes.

The study of water resources and their investment is of great importance to any country because it is considered one of the most important pillars of the national wealth of those countries. Water has an essential role in the development and development of civilian life through exploitation in agriculture, industry and power generation. The development of the

country's economic development plans requires studying the water resources carefully and in order to reach the desired goal.

The passage of the Euphrates River, which is one of the most important water resources in the country (in addition to the Tigris River) into the Iraqi territory through the province of Anbar and the passage of a large distance within the province and the presence of dam Haditha, which is one of the most important and largest dams in the country and built on this river in addition to the existence of Lake Tharthar and Al-Habbaniyeh made the management and study of these resources very important.

In light of the above, the Department of Engineering of Dams and Water Resources was established at the Faculty of Engineering, Anbar University in the academic year 2002/2003. The first batch was accepted in the same year by (13) students. The number of faculty members (5) teaching, and the number is currently (32) teaching in the academic year 2015/2016.

The Department of Engineering of dams and water resources is one of the important scientific departments in the college. This department was established to meet the needs of the country and maintain efficient engineering cadres for the governmental departments of dams and water resources.

b. Organizational Chart

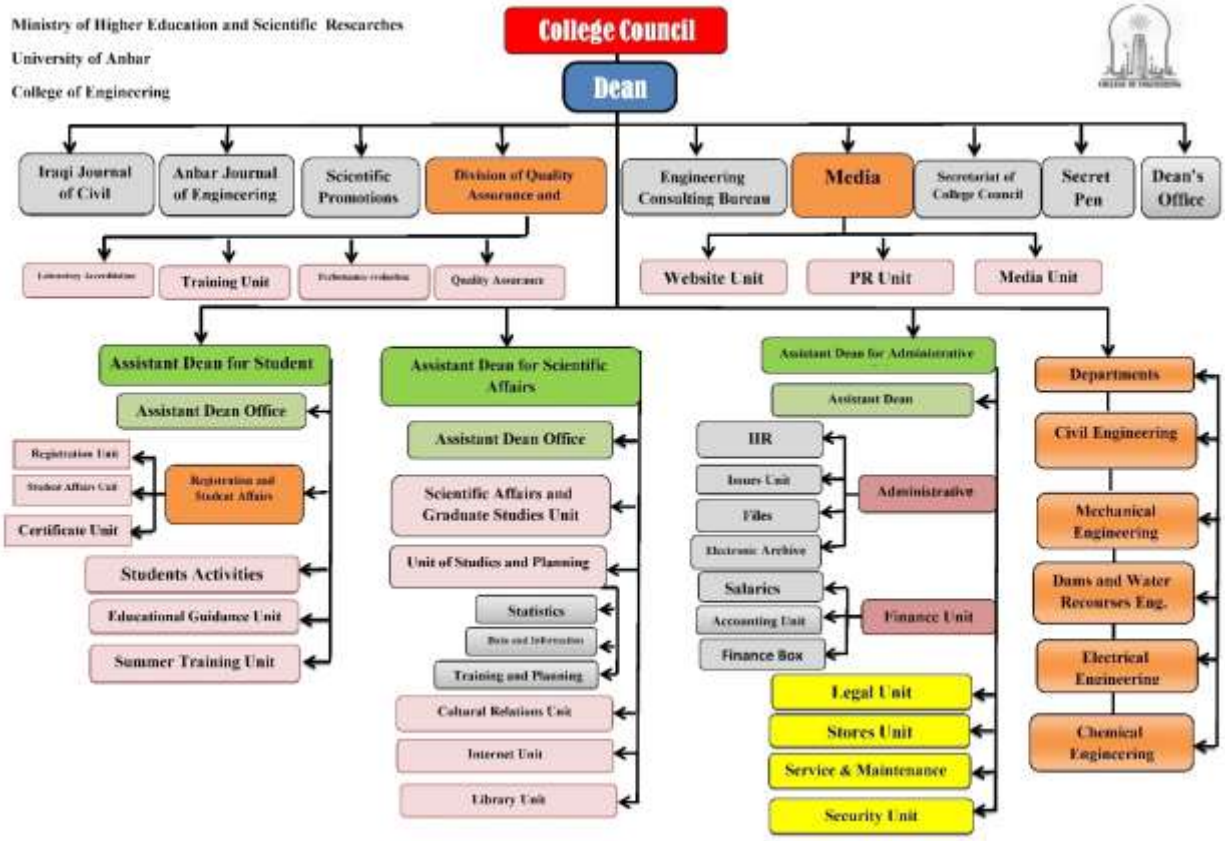


Fig. D-1: Organizational chart showing the location of DWE among the college of engineering

c. Administrative Head

Ast. Prof. Dr. Dr. Jummaa Al-Sumaidai, Head of the department of Dams and water Resources Engineering.

d. Information Regarding Administrators

Ast. Prof. Dr. Ameer Abdurahaman Hilal, Dean of the College of Engineering.

Asst. Prof. Dr. Mohammed A. Ahmed, Assistant Dean for Scientific Affairs

Dr. Ma'ath J. Mohammed, Asst. Dean for Administrative and Financial Affairs

4. Academic Support Units

All teaching staff are from DWE department, and some courses are taught by faculty from other departments in the college of engineering.

5. Non-academic Support Units

Department Library:
Department Computing Facilities:
University Career Services:
Department Student Services:

6. Credit Unit

It is assumed that one semester or quarter credit normally represents one class hour or three laboratory hours per week. One academic year normally represents at least 28 weeks of classes, exclusive of final examinations.

7. Tables

Table D-1. Program Enrollment

DWE program

	Academic Year	Enrollment Year					Total Undergrad	Total Grad	Degree Awarded		
		1st	2nd	3rd	4th	5th			BSc	MSc	PhD
Current Year	2019-2020	FT									
		PT	-	-	-	-	-	-			
1	2018-2019	FT									
		PT	-	-	-	-	-	-			
2	2017-2018	FT									
		PT	-	-	-	-	-	-			
3	2016-2017	FT									
		PT	-	-	-	-	-	-			
4	2015-2016	FT									
		PT	-	-	-	-	-	-			
		PT	-	-	-	-	-	-			

FT = full time
PT = part time

Table D-2. Personnel

DWE program

Year: 2019-2020

	Number		FTE
	FT	PT	
Administrative		-	
Faculty (permanent staff)		-	
Other Faculty (excluding student Assistants)		-	
Student Teaching Assistants		-	
Technicians/Specialists		-	
Administrative Staff		-	
Others		-	

Submission Compliance and Signature

By signing below, I attest to the following:

That *Dams and Water Resources Engineering Department/Program* has conducted an honest assessment of compliance and has provided a complete and accurate disclosure of timely information regarding compliance with the *National Criteria for Accrediting Engineering Programs* to include the General Criteria and any applicable Program Criteria, and the *National Council Accreditation Policies and Procedures.*

Ameer Abdulrahman Hilal, PhD

Dean's Name

Signature 5/10/2020

Dr. Jumaa Awad
Head of Dept.
JUM

Date 5/10/2020