

Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation



Academic Program Specification Form for the Academic

University: Anbar
College: Agriculture
Department: Soil sciences & water
resources
Date Of Form Completion: 1/6/2022

Dean's Name: Dr.
Idham Ali Abed

Signature

Date: 1/6/2022

Dean's Assistant For
Scientific Affairs: Dr.
Mohammed Hamdan
Edan

Signature

Date: 1/6/2022

Head of Department
Dr. waqas Mahmood
Aljuboory

Signature

Date : 1/6/ 2022

Quality Assurance And University Performance
Manager Date : / 6 / H / 2022
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	University of Anbar
2. University Department/Centre	Soil sciences & water resources
3. Programme Title	Agriculture Vocabulary
4. Title of Final Award	Bachelor of Agriculture
5. Modes of Attendance offered	other
6. Other external influences	Related laws and guidelines
7. Date of production/revision of this specification	1/6/2022
8. Aims of the Programme	
	Providing students with knowledge of the nature and methods of diagnosing agricultural pests and combating them from an academic and professional point of view
	Understand the nature of agricultural pests and their livelihood according to scientific standards
	Understand the nature of direct and indirect economic damages caused by agricultural pests and how to deal with them according to correct applied scientific methods
	Provide students with information on how to manage IPM programs of pests
	Develop their awareness regarding dealing with chemical pesticides and how to dispose of their residues
	Training students based on the summer training system in the supportive competent authorities, such as the agricultural divisions and the agricultural quarantine

9. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- 1- Understand the concept of pest
- 2- Distinguish between a primary lesion and a secondary lesion
- 3- Distinguishing between types of insect, fungal, bacterial, viral and other pests.
- 4- Knowing the level of damage to the pest and when the control order is required
- 5- Knowing the appropriate type of pesticide or pest control and knowing the appropriate timing for the control
- 6- Identification of pesticides and their families and how to deal with them
- 7- Full knowledge of agricultural pest management.

B. Subject-specific skills

- B1 - Knowing how to diagnose the pest
- B 2 - Knowing how to determine the level of damage and the type as well as appropriate method and time of control .
- B3 - Knowing how to manage the integrated crop

Teaching and Learning Methods

- 1- Adopting the method of giving lectures and linking each topic with examples from the reality of the agricultural work situation
- 2- Giving them some simple practical exercises that are discussed by the students and solved during the lecture with the participation of all students in the section with the professor to give the material as a kind of interaction.
- 3- Training students in laboratories by conducting the necessary laboratory tests for diagnosis
- 4- Summer training in supporting institutions such as the directorates of agriculture, silos and agricultural quarantine

Assessment Methods

- 1 - Through the participation of students in the lecture, based on their prior preparation of the subject.
- 2 - Giving them an exercise as a homework and asking for it to be solved with separate papers, collected from them in the next lecture.
- 3- Giving the students a case study and dividing the students into groups to write a report about such study.
- 4- Evaluation through periodic monthly exams.

C. Thinking Skills

- C1- Instilling values and principles in the student by emphasizing the independence of the statistician when expressing his impartial opinion
- C2- Emphasis on personal characteristics such as integrity, honesty, confidentiality and morals.
- C3 - Statement of the importance of the rules of professional conduct and its exposure to legal penalties in case of violation
- C4- Emphasizing the importance of combating financial and administrative corruption by the regulatory bodies.

Teaching and Learning Methods

1- Adopting the method of giving lectures and linking each topic with examples from the reality of the agricultural work situation

2- Giving them some simple practical exercises that are discussed by the students and solved during the lecture

With the participation of all students in the section with the professor to give the material as a kind of interaction.

3- Training students in laboratories by conducting the necessary laboratory tests for diagnosis

4- Summer training in supporting institutions such as the Directorates of Agriculture, Silos and Agricultural Quarantine

Assessment Methods

1 - Through the participation of students in the lecture, based on their prior preparation of the subject.

2 - Giving them an exercise as a homework and asking for it to be solved with separate papers, collected from them in the next lecture.

3- Giving the students a case study and dividing the students into groups to write a report about that study.

4- Evaluation through monthly exams.

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1- Determine the type of pest
- D2- Determining the level of economic damage
- D 3- Determining the type, method and timing of the control
- D4- Integrated pest management

Teaching and Learning Methods

- 1- Adopting the method of giving lectures and linking each topic with examples from the reality of the agricultural work situation
- 2- Giving them some simple practical exercises that are discussed by the students and solved during the lecture
With the participation of all students in the section with the professor to give the material as a kind of interaction.
- 3- Training students in laboratories by conducting the necessary laboratory tests for diagnosis
- 4- Summer training in supporting institutions such as the directorates of agriculture, silos and agricultural quarantine

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- 1 - Through the participation of students in the lecture, based on their prior preparation of the subject.
- 2 - Giving them an exercise as a homework and asking for it to be solved with separate papers, collected from them in the next lecture.
- 3- Giving the students a case study and dividing the students into groups to write a report about that study.
- 4- Evaluation through monthly exams.

10. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
first	ASW100	Engineering Drawing		Bachelor Degree Requires (x) credits
first	ASW101	Analytical chemistry		
first	ASW109	Surveying		
first	ASW110	Principles Geology		
first	ASW111	General Physics		
first	ASW113	Essentials of Animal Production		

first	ASW104	Mathematics		
first	ASW103	Principle of field Crops		
first	ASW106	English 1		
first	ASW116	English 2		
first	ASW115	Arabic		
first	ASW107	Human rights		
first	ASW105	computer applications-1		
first	ASW114	computer applications-2		
Second	ASW203	Principle of microbiology		
Second	ASW206	Liberty and democracy		
Second	ASW201	Principle of soil science		
Second	ASW202	Principle of statistics		
Second	ASW205	Principle of agriculture extension		
Second	ASW208	Principle of plant protection		
Second	ASW200	Organic chemistry		
Second	ASW204	Soil ecology of meteorology		
Second	ASW207	Soil , plant and water analysis		
Second	ASW209	Farm machinery and equipment		
Second	ASW210	Plant physiology		
Second	ASW211	Settlement and adjustment of land		
third	ASW300	Soil physics		

third	ASW301	Organic matter in soil		
third	ASW302	Soil fertility		
third	ASW303	irrigation		
third	ASW304	Soil chemistry		
third	ASW305	Soil , water pollution		
third	ASW306	Experimental designs & analysis		
third	ASW307	Remote sensing		
third	ASW308	Soil salinity		
third	ASW309	Soil morphology		
third	ASW310	Drainage		
third	ASW311	Soil mineralogy		
third	ASW312	Economics of natural resources		
fourth	ASW400	Soil survey and classification		
fourth	ASW401	Soil and water conservation		
fourth	ASW402	Soil microbiology		
fourth	ASW403	Soil, water, plant relationship		
fourth	ASW404	Hydrology and water resource		
fourth	ASW406	Irrigation technology		
fourth	ASW405	Research Projects 1		
fourth	ASW407	Soil management		
fourth	ASW408	Desertification		
fourth	ASW409	Plant nutrition		
fourth	ASW410	Fertilizers technology		

11. Personal Development Planning

Encouraging students to achieve the highest grades during the study stages in the college, so that they can be the first in order to achieve their dreams by completing their studies in postgraduate studies and encouraging them to enroll in postgraduate studies.

12. Admission criteria .

The average of the student in the high school, taking into account the desire of the student

13. Key sources of information about the programme

Methodological books (books, magazines, periodicals, and websites) specialized in the soil and water

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Academic Program Specification Form For The Academic

*University: Anbar
College: Agriculture
Department: Soil and water Sciences
Date Of Form Completion: 23/9/2021*

*Dean 's Name
Date : / /*

*Dean 's Assistant
ForScientific
Affairs
Date : / /*

*Head of
Department
Date : / /*

Signature

Signature

Signature

*Quality Assurance And University Performance
ManagerDate : / /
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10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1.
- A2.
- A3.
- A4.
- A5.
- A6.

B. Subject-specific skills

- B1.
- B2.
- B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills

- C1.
- C2.
- C3.
- C4.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1.
- D2.
- D3.
- D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

15. Key sources of information about the programme

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Agriculture
2. University Department/Centre	Soil and water Sciences department
3. Course title/code	Soil management /ASW407
4. Programme(s) to which it contributes	
5. Modes of Attendance offered	Presence
6. Semester/Year	Autumn/2022
7. Number of hours tuition (total)	5 hours
8. Date of production/revision of this Specification	23/ 9/ 2021
9. Aims of the Course	
1- Identifying the administrative processes required to be implemented to manage the land to reach the best production and to avoid operations that could lead to land degradation.	
2- How to locate the farm and draw the administrative maps of the farm.	
3- Classification of lands and the determinants of each category and mapping them out.	
4- Evaluating the land and determining the most important administrative determinants for the suitability of growing crops in the specified area	
5- Appropriate administrative processes for managing Gypsiferous and calcareous soils	
6- Appropriate administrative processes for managing saline and sandy soils	

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

- A1. Increasing experience and knowledge in the field of competence in the basic concepts and procedures in the field of soil and water management
 - A2- Knowing the fertility status of the soil and how to treat it
 - A3- How to plow the soil and the appropriate methods of plowing according to the different soil type
 - A4- How to prepare the appropriate agricultural cycle for the farm
 - A 5- How to prepare the administrative map of the farm
 - A6- How to conduct an assessment of farm land to get elected
- Appropriate administrative processes for managing saline and sandy soils

B. Subject-specific skills

- B1 - In the field of obtaining samples of fertility status
- B2 - How to determine the determinants of suitability of the selected crop for cultivation in the region
- B3 - Skill in determining the location of the farm through geospatial systems
- B 4- Skill in the field of farm management from the plant and animal side

Teaching and Learning Methods

Special books in the field of soil and water management, as well as scientific journals in the field of specialization, in addition to scientific trips to see the management methods used in the field and its impact on production.

Assessment methods

Daily exams, two semester exams, as well as a request for a research project in the field of specialization

C. Thinking Skills

- C1. Increasing self-confidence and the administrative decision taken
- C2 - Increasing field experience in the field of specialization
- C 3- The ability to avoid fluctuations in profitability .

Teaching and Learning Methods

Lectures, practical and laboratory side, educational videos in the field of specialization

Assessment methods

Exams and extra-curricular activities

- D. General and Transferable Skills (other skills relevant to employability and personal development)
- D1- Field skills in the ability to determine the fertile state of the soil
- D2- Skill in using agricultural equipment and machinery appropriate to the soil of the field
- D3 - The possibility of determining the determining factors for the suitability of the land for the cultivation of the crop
- D4-

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	5	Get to know the basic terms	Introduction, and familiarization with the basic terms in the field of soil and water management	lecture + practical	daily Exam. 10 degrees
2	5	Learn about the most important doctrines of soil management	Identifying the doctrines of soil management and their trends - identifying the principle of planning and its importance in soil and water management	lecture + practical	daily Exam. 10 degrees
3	5	The relationship of soil fertility to its productivity and how to determine the fertility status of a soil	Soil fertility and its relationship to the productivity of the land and the methods used to investigate soil fertility and assess the degree of its fertility	lecture + practical	daily Exam. 10 degrees
5	5	The most important great soil group found in Iraq and their geographical distribution	Forensic characterization of the site - tasks of soil survey and classification in its management - the lands of Iraq	lecture + practical	daily Exam. 10 degrees
6	5	How to Obtain Fertility Samples	Soil plowing and its importance in the field of soil conservation - obtaining soil samples.	lecture + practical	daily Exam. 10 degrees
7	5	How to prepare the agricultural	Agricultural rotation - land uses - land valuation	lecture + practical	daily Exam. 10 degrees

		rotation and evaluate the land			
8	5	How to prepare the administrative map	The administrative map and how to implement it - the administrative means and processes to be carried out when managing saline, compact, desert, calcareous and Gypsiferous soils	lecture + practical	daily Exam. 10 degrees

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Soil management and land use book, by Dr. Walid Khaled Al-Akaidi, 1990 And planning book in the field of soil management
Special requirements (include for example workshops, periodicals, IT software, websites)	Principles of sustainable soil management in Agro ecosystems Rattan Lal and Stewart 2013 Sustainable soil management Deirdre Rooney 2013
Community-based facilities (include for example, guest Lectures , internship , field studies)	Reports on the characterization and classification of Iraqi soils and completed by the Ministry of Land Resources The National Center for Environmental Studies Scientific journals in the field of specialization

13. Admissions	
Pre-requisites	Google research gate
Minimum number of students	45 students
Maximum number of students	60 students

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Academic Program Specification Form For The Academic

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10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1.
- A2.
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- A5.
- A6.

B. Subject-specific skills

- B1.
- B2.
- B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills

- C1.
- C2.
- C3.
- C4.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1.
- D2.
- D3.
- D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

15. Key sources of information about the programme

TEMPLATE FOR COURSE SPECIFICATION

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1. Teaching Institution	College of Agriculture
2. University Department/Centre	Soil and water Sciences department
3. Course title/code	Soil management /ASW407
4. Programme(s) to which it contributes	
5. Modes of Attendance offered	Presence
6. Semester/Year	Autumn/2022
7. Number of hours tuition (total)	5 hours
8. Date of production/revision of this Specification	23/ 9/ 2021
9. Aims of the Course	
1- Identifying the administrative processes required to be implemented to manage the land to reach the best production and to avoid operations that could lead to land degradation.	
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10. Learning Outcomes, Teaching ,Learning and Assessment Methode

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C. Thinking Skills

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Assessment methods

Exams and extra-curricular activities

- D. General and Transferable Skills (other skills relevant to employability and personal development)
- D1- Field skills in the ability to determine the fertile state of the soil
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- D4-

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3	5	The relationship of soil fertility to its productivity and how to determine the fertility status of a soil	Soil fertility and its relationship to the productivity of the land and the methods used to investigate soil fertility and assess the degree of its fertility	lecture + practical	daily Exam. 10 degrees
5	5	The most important great soil group found in Iraq and their geographical distribution	Forensic characterization of the site - tasks of soil survey and classification in its management - the lands of Iraq	lecture + practical	daily Exam. 10 degrees
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*Head of
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10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1.
- A2.
- A3.
- A4.
- A5.
- A6.

B. Subject-specific skills

- B1.
- B2.
- B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills

- C1.
- C2.
- C3.
- C4.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1.
- D2.
- D3.
- D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits

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15. Key sources of information about the programme

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1. Teaching Institution	College of Agriculture/University of Anbar
2. University Department/Centre	Department of Soil Sciences and Water Resources
3. Course title/code	Soil Microbiology / ASW402
4. Programme(s) to which it contributes	Academic Program / Quality Assurance Manual
5. Modes of Attendance offered	Theoretical lectures, laboratories, field and field visits.
6. Semester/Year	quarterly
7. Number of hours tuition (total)	75 hours
8. Date of production/revision of this Specification	26 / 9 / 2021
9. Aims of the Course	
	1- Soil microbiology examines giving a historical overview, definition, and importance of studying soil microbiology.
	2- It includes the definition of the groups of soil microorganisms: bacteria, fungi, algae, actinomycetes, protozoa, and root fungi.
	3- Students get acquainted with the biological transformations of N, the nitrogen cycle, the decomposition of urea, the nitrite process, mineralization and assimilation, C/N ratio.
	4- The student's knowledge of the biological transformations of phosphorus: its cycle and the role of microorganisms in its transformations.
	5- Study of the relationships between microorganisms: the area surrounding the roots (the rhizosphere) and the activity of micro-organisms in this area.

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

- A1. The student is introduced to the microbiology of the soil by giving him a historical overview.
- A2. Recognize the importance of studying microscopic soil biology.
- A3. The student differentiates between the groups of microscopic soil organisms.
- A4. The student separates between the role of microorganisms and other techniques in fixing nitrogen in the soil.
- A5. The student knows the relationships between the micro-organisms in the area surrounding the roots (the rhizosphere).
- A6 . The student learns about the activity of micro-organisms in this root zone

B. Subject-specific skills

- B1. Introducing the student to the importance of studying microscopic soil biology.
- B2. The student's ability to differentiate between the types of microorganisms present in the soil.
- B3. Enabling the student to study the relationships between microorganisms and the area around roots (the rhizosphere).

Teaching and Learning Methods

- 1- Method of the theoretical lecture
- 2- Explanation and practical expansion
- 3- Student groups in the laboratory
- 4- Practical lessons in the fields
- 5- Scientific trips
- 6- The method of self-learning

Assessment methods

- 1- Theoretical tests.
- 2- Practical tests.
- 3- Reports, studies and some infected plant models and isolation of microorganisms from soil.

C. Thinking Skills

- C1. Thinking skill according to the student's ability, and the goal of this skill is for the student to believe in what is tangible. Understand when, what and how one should think and work to improve the ability to think sensibly.
- C2. Observation, perception, drawing, comparison and diagnosis under the microscope.
- C3. Correct scientific analysis and interpretation.
- C4. Preparing, evaluating and writing reports.

Teaching and Learning Methods

- 1- Brainstorming
- 2- Thinking strategy according to the student's ability (for example) if the student can learn the concept of the existence of microorganisms and distinguish The beneficial from the harmful.
- 3- Critical thinking strategy in learning, which is a term that symbolizes the highest levels of thinking that aims to pose a problem. Then analyze it logically to reach the desired solution.

Assessment methods

- 1- Theoretical tests
- 2- Practical tests
- 3- Reports and studies.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. 1- Verbal Communication: The ability to express ideas clearly and confidently in speaking.

D2. Team work.

D3. 3- Investigation analysis: collecting information in a systematic and scientific manner to establish facts and principles as a solution to a specific problem.

D4. Written Communication: The ability to express yourself clearly in writing.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	5	The student gets to know the importance of studying soil microbiology.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
Second	5	The student learns about the sections of soil microbiology	Soil Microbiology	Lecture, explanation and presentation of models	the exam
Third	5	The student gets to know the groups of neighborhoods microscopic soil	Soil Microbiology	Lecture, explanation and presentation of models	the exam
Fourth	5	The student learns about the organic matter, the carbon cycle, and the enzymatic activity in the soil.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
fifth	5	The student learns about the nitrogen cycle and its biological transformations.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
sixth	5	The student learns about biofixation for nitrogen	Soil Microbiology	Lecture, explanation and presentation of models	the exam
seventh	5	The student learns about the cycle of phosphorous and its biological transformations	Soil Microbiology	Lecture, explanation and presentation of models	the exam

eighth	5	The student learns about the cycle of sulfur and its biological transformations.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
ninth	5	The student learns about transformations iron vitality.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
tenth	5	The student learns about the decomposition of pesticides in the soil.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
eleventh	5	The student learns about the relationships between Microbiology.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
twelfth	5	The student learns about the surrounding area Roots and the activity of their living things.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
Thirteenth	5	The student learns about the nutrition of living things microscopic, multiplying.	Soil Microbiology	Lecture, explanation and presentation of models	the exam
fourteenth	5	The student learns ways to isolate Some microorganisms from soil	Soil Microbiology	Lecture, explanation and presentation of models	the exam
fifteenth	5	The student will identify ways to isolate other microorganisms from soil	Soil Microbiology	Lecture, explanation and presentation of models	the exam

12. Infrastructure

Required reading:

- CORE TEXTS
- COURSE MATERIALS
- OTHER

- Ghiath Muhammad Qasim and Mudar Abdul Sattar Ali (1989). Soil microbiology. Directorate of Dar Al-Kutub for Printing and Publishing.
2- - Martin Alexander, 1982, Introduction to Soil Microbiology, translated by John Wiley.

Special requirements (include for example workshops, periodicals, IT software, websites)

- 1- Foreign, Iraqi and Arab scientific journals
- 2- Mmicrobiology of soil, websites.

Community-based facilities (include for example, guest Lectures , internship , field studies)	Electronic lectures, scientific trips and field visits
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13. Admissions	central
Pre-requisites	
Minimum number of students	20
Maximum number of students	40

14- Curriculum development plan:

1 - Sending students, especially the first ones, to their scientific departments outside Iraq, especially in developed countries, to develop

Skills each according to his desire and according to the specializations in the scientific department

2 - Cooperation between Iraqi universities and international universities through sending teachers to international universities.

3 - Developing the idea of a visiting professor to provide the young universities with expertise and the latest findings of science in the agricultural fields.

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

University:

College :

Department :

Date Of Form Completion :

Dean 's Name

Date : / /

Signature

*Dean 's Assistant
ForScientific
Affairs*

Date : / /

Signature

*Head of
Department*

Date : / /

Signature

Quality Assurance And University Performance

ManagerDate : / /

Signature

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1.
- A2.
- A3.
- A4.
- A5.
- A6.

B. Subject-specific skills

- B1.
- B2.
- B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills

- C1.
- C2.
- C3.
- C4.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1.
- D2.
- D3.
- D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
				Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

15. Key sources of information about the programme

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Gollage of agriculture – Univ. of Anbar
2. University Department/Centre	Soil sciences & water resources
3. Course title/code	Drainage/ASW310
4. Programme(s) to which it contributes	Distance learning E learning
5. Modes of Attendance offered	E learning
6. Semester/Year	Second semester/ 2020 - 2021
7. Number of hours tuition (total)	50
8. Date of production/revision of this Specification	25- 9 – 2021

9. Aims of the Course

The student must have knowledge of the puncture process, what are the factors that affect the puncture process, the purposes of puncture in wet or dry areas, the physical characteristics that are related to puncture, and some equations related to the interpretation of water movement in the soil. The design of open trocars and the space between trocars, the addition of the parts that make up the trocar and the filters surrounding the trocars, in addition to knowledge of maintenance operations, whether for open or covered trocars.

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A1. The student must know what is the meaning of puncture and how the troughs get rid of the excess water in the surface area

A2. Disposal Lower the ground water level so that it does not affect the roots of the plants and thus production

A3. It can get rid of soil salinity or reduce its harmful effect on plants and thus raise productivity

A4. New lands can be reclaimed by improving the soil's physical, chemical and fertility properties

A5.

A6 .

B. Subject-specific skills

B1. Skills in arithmetic operations such as roots and logarithms and solving some arithmetic equations

B2. How to link climate and soil factors The sewage program to make the most of what is available

B3. Reducing the cost of work from an economic point of view and appropriate the type and depth of the trocar with the cultivated crops

Teaching and Learning Methods

1- Conducting laboratory trades

2- Field work

3- Visits to the irrigation projects implemented in the region

Assessment methods

daily exams

Reports

Student attendance

monthly exams

Semester exams

C. Thinking Skills

C1. Note the student's inclination to the way of learning

C2. Determine the topic that appeals to the student and that he is trying to be distinguished or to be creative in

C3.

C4.

Teaching and Learning Methods

1- Conducting laboratory trades

2- Field work

3- Visits to the irrigation projects implemented in the region

Assessment methods

daily exams

Reports

Student attendance

monthly exams

Semester exams

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Conducting field visits to some puncture projects to see the work that is taking place in them

D2. Knowing the monitoring processes that are constantly taking place on the troughs.

D3.

D4.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	5	Theoretical: The concept of puncture, the purpose of puncture, how to infer the existence of a puncture problem, the benefits of puncture, puncture in Iraq, some physical properties of soil related to puncture Practical: Investigations of puncture projects, exploratory survey, design survey	Drainage	The lecture will be delivered via google meet	quiz
The second	5	Theoretical: Soil properties (soil structure, degree of cohesion, soil air, soil temperature, soil color), soil water	Drainage	The lecture will be delivered via google meet	quiz

		and its relationship to drainage, behavior and flow of water in the soil, soil water content and effort, soil water energy, groundwater potential Practical :- Studying groundwater, drinking wells, monitoring wells, fluid pressures, surface water, measuring ground water levels and water in drains.			
the third	5	Theoretical:- Water flow in the soil, Bozel's law, Darcy's law, horizontal movement of water in stratified soil, flow in vertical stratigraphic soils Practical: Measurement of saturated water conductivity in the laboratory, mathematical applications of water flow in the soil	Drainage	The lecture will be delivered via google mee	quiz
the fourth	5	Theoretical:- Continuity equation and Laplace equation for flow in saturated soils, Dupuyt-Fürchimer equation, soil salinity and washing	Drainage	The lecture will be delivered via google meet	quiz

		<p>requirements, origin and nature of salt-affected soils, sources and types of dissolved salts, salt transformation of soils</p> <p>Practical: Measuring soil permeability under the surface of ground water (auger method)</p> <p>Mathematical problems</p>			
Fifth	5	<p>Theoretical: Classification of salt-affected soils, reclamation of salt-affected soils, reclamation of saline soils, reclamation of alkaline soils, reclamation of saline-alkaline soils, washing of soils and washing requirements, estimation of electrical conductivity of puncture water, washing coefficient, reclamation and drainage system.</p> <p>Practical: Measurement of permeability over the surface of groundwater</p>	Drainage	The lecture will be delivered via google meet	quiz
Sixth	5	Theoretical:-	Drainage	The lecture will	quiz

		<p>Puncture systems, classification of open trocars, trocar site planning, depths of open trocars, advantages and disadvantages of open trocars</p> <p>Practical: - design of open trochanter sections, puncture laboratories or puncture rations, design of open trochanter sections.</p>		<p>be delivered via google mee</p>	
seventh	5	<p>Theoretical:- Covered trocars, types of covered puncture systems, advantages and disadvantages of covered punctures, specifications of covered puncture pipes, depth of tubular trocars, important industrial works needed for a covered puncture network</p> <p>Practical: Filter specifications (mathematical examples)</p>	Drainage	<p>The lecture will be delivered via google mee</p>	quiz
eight	5	<p>Theoretical:- Vertical drilling (puncture wells), types of drilling wells, the relationship between groundwater level, well drainage and hydraulic</p>	Drainage	<p>The lecture will be delivered via google meet</p>	quiz

		conduction, relationships in the case of stable flow Practical: - Design of covered trocars			
ninth	5	Theoretical: Relationships in the case of unstable flow, interference between wells Practical: The distances between the troughs, the first Hogout equation, the Augaut equation for stratified soils.	Drainage	The lecture will be delivered via google meet	quiz
The tenth	5	Theoretical: - Maintenance of troughs (open troughs, covered, puncture wells). Practical: Ernst's equation (the first case, the second case, the third case), the distances between homogeneous trocars when the deaf layer is at a very great depth from the surface of the earth	Drainage	The lecture will be delivered via google meet	quiz

12. Infrastructure

Required reading:

- CORE TEXTS
- COURSE MATERIALS
- OTHER

Drainage engineering written by / d. Abdul Sattar Younis al-Dabbagh

Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	15
Maximum number of students	30

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

*University: Anbar
College : Agriculture
Department : Soil sciences &
water resources
Date Of Form Completion :
27/6/2021*

Dean 's Name

Date

*: /
/*

Signature

*Dean 's Assistant
ForScientific
Affairs*

Date : / /

Signature

*Head of
Department*

Date : / /

Signature

*Quality Assurance And University Performance
Manager Date : / /*

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	College of agriculture – Univ. of Anbar
2. University Department/Centre	Soil sciences & water resources
3. Programme Title	Plant Nutrition
4. Title of Final Award	Bachelor – Final year
5. Modes of Attendance offered	Distance Learning, E Learning
6. Accreditation	semesters
7. Other external influences	
8. Date of production/revision of this specification	First semester – 2020-2021
9. Aims of the Programme	
Understanding the principles of Plant Nutrition	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1. Know the terminology of plant nutrition
- A2. Knowledge of the basics of plant nutrition and its relationship to fertility

B. Subject-specific skills

- B1. Ability to use some laboratory and field equipment and equipment
- B2. 2. The ability to apply mathematical equations commonly used in dietetics

Teaching and Learning Methods

- 1. The ability to make some field and laboratory measurements of some plant factors
- 2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment methods

Research and reports related to the subject, in addition to daily and monthly quick exams

C. Thinking Skills

- C1 Quick review of the previous lecture
- C2. Discussing with students' topics about the subject

Teaching and Learning Methods

- 1. The ability to make some field and laboratory measurements of some plant factors
- 2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment methods

- 1. Accreditation of student attendance
- 2. Adopting instant discussions for students

D. General and Transferable Skills (other skills relevant to employability and personal development)

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions.

Teaching and Learning Methods

1. The ability to make some field and laboratory measurements of some plant factors
2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment Methods

1. Accreditation of student attendance
2. Adopting instant discussions for students

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
the fourth	ASW409	Plant Nutrition		Bachelor Degree Requires (x) credits
				Subject Units Lectures Electronic Platform Internet Web

13. Personal Development Planning

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions

14. Admission criteria .

15. Key sources of information about the programme

Plant Nutrition
Soil-Water-Plant Relationship

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A- Knowledge and Understanding

A1. Define Plant Nutrition, Macronutrient

A2. Factors influencing the availability of nutrients in soil

A3. Nutrient Solution

A4. Nutritional Elements cycles in Nature

B. Subject-specific skills

B1. Ability to use some laboratory and field equipment and equipment

B2. The ability to apply mathematical equations commonly used in dietetics

Teaching and Learning Methods

1. Quick review of the previous lecture
2. Discussing with students topics about the subject

Assessment methods

1. Do quick daily tests
2. Giving students intellectual assignments
3. Giving exercises and asking for them

C. Thinking Skills

1. Quick review of the previous lecture
2. Discussing with students' topics about the subject

Teaching and Learning Methods

1. Quick review of the previous lecture
2. Discussing with students topics about the subject

Assessment methods

1. Do quick daily tests
2. Giving students intellectual assignments
3. Giving exercises and asking for them

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
Week1	5	Plant Nutrition	Define Plant Nutrition , Macronutrient	Giving a lecture on the Google meet platform	quiz
Week2	5	-	Factors influencing the availability of nutrients in soil	-	-
Week3	5	-	Nutrient Solution	-	-
Week4	5	-	Nutritional Elements cycles in Nature	-	-
Week5	First month exam – theory & practical				
Week6	5	Plant Nutrition	Mineral nutrition and plant growth	Giving a lecture on the Google meet platform	quiz
Week7	5	-	Absorption and transfer of nutrients	-	-
Week8	5	-	Active and passive transport	-	-
Week9	5	-	Active absorption	-	-
Week10	2 nd month exam – theory & practical				
Week11	5	Plant Nutrition	Photosynthesis	Giving a lecture on the Google meet platform	quiz
Week12	5	-	Salt Respiration Hypothesis	-	-
Week13	5	-	Inorganic mineral elements	-	-
Week14	5	-	The influence of genetic factors and	-	-

			the environment on plant nutrition		
Week15	3 rd month exam – theory & practical				
Week16	Final exam – theory & practical				

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Plant Nutrition Everything related to plant nutrition and physiology from books, magazines, etc
Special requirements (include for example workshops, periodicals, IT software, websites)	Plant physiology and nutrition
Community-based facilities (include for example, guest Lectures , internship , field studies)	Studies related to plant nutrition and physiology

13. Admissions	
Pre-requisites	plant nutrition course
Minimum number of students	25
Maximum number of students	60

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

*University: Anbar
College : Agriculture
Department : Soil sciences &
water resources
Date Of Form Completion :
27/6/2021*

Dean 's Name

Date

*: /
/*

Signature

*Dean 's Assistant
ForScientific
Affairs*

Date : / /

Signature

*Head of
Department*

Date : / /

Signature

*Quality Assurance And University Performance
ManagerDate : / /*

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	College of agriculture – Univ. of Anbar
2. University Department/Centre	Soil sciences & water resources
3. Programme Title	Soil-Water-Plant Relationship
4. Title of Final Award	Bachelor – Final year
5. Modes of Attendance offered	Distance Learning, E Learning
6. Accreditation	semesters
7. Other external influences	
8. Date of production/revision of this specification	Second semester – 2020-2021
9. Aims of the Programme	
Understanding the principles of Soil-Water-Plant Relationship	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1. Know the terminology of Soil-Water-Plant Relationship
- A2. Knowledge of the basics of Soil-Water-Plant Relationship and its relationship to fertility

B. Subject-specific skills

- B1. Ability to use some laboratory and field equipment and equipment
- B2. 2. The ability to apply mathematical equations commonly used in dietetics

Teaching and Learning Methods

1. The ability to make some field and laboratory measurements of some plant factors
2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment methods

Research and reports related to the subject, in addition to daily and monthly quick exams

C. Thinking Skills

- C1 Quick review of the previous lecture
- C2. Discussing with students' topics about the subject

Teaching and Learning Methods

1. The ability to make some field and laboratory measurements of some plant factors
2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment methods

1. Accreditation of student attendance
2. Adopting instant discussions for students

D. General and Transferable Skills (other skills relevant to employability and personal development)

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions.

Teaching and Learning Methods

1. The ability to make some field and laboratory measurements of some plant factors
2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment Methods

1. Accreditation of student attendance
2. Adopting instant discussions for students

11. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
the fourth	ASW403	Soil-Water-Plant Relationship		Bachelor Degree Requires (x) credits Subject Units Lectures Electronic Platform Internet Web

13. Personal Development Planning

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions

14. Admission criteria .

15. Key sources of information about the programme

Soil-Water-Plant Relationship

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A- Knowledge and Understanding

A1. Define Soil-Water-Plant Relationship

A2. Water and Water Potential

A3. Water and Water Potential in soil

A4. Water and Water Potential in plant

B. Subject-specific skills

B1. Ability to use some laboratory and field equipment and equipment

B2. The ability to apply mathematical equations commonly used in dietetics

Teaching and Learning Methods

1. Quick review of the previous lecture
2. Discussing with students topics about the subject

Assessment methods

1. Do quick daily tests
2. Giving students intellectual assignments
3. Giving exercises and asking for them

C. Thinking Skills

1. Quick review of the previous lecture
2. Discussing with students' topics about the subject

Teaching and Learning Methods

1. Quick review of the previous lecture
2. Discussing with students topics about the subject

Assessment methods

1. Do quick daily tests
2. Giving students intellectual assignments
3. Giving exercises and asking for them

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
Week1	5	Soil-Water-Plant Relationship	Define Soil-Water-Plant Relationship	Giving a lecture on the Google meet platform	quiz
Week2	5	-	Water and Water Potential	-	-
Week3	5	-	Water and Water Potential in soil	-	-
Week4	5	-	Water and Water Potential in plant	-	-
Week5	First month exam – theory & practical				
Week6	5	Soil-Water-Plant Relationship	Water and Water Potential in soil-plant-Atmosphere Continuum	Giving a lecture on the Google meet platform	quiz
Week7	5	-	Stress	-	-
Week8	5	-	Modification of Root zone for Alleviating Plant Stress	-	-
Week9	5	-	Alleviating Plant water Stress	-	-
Week10	2 nd month exam – theory & practical				
Week11	5	Soil-Water-Plant Relationship	Alleviating Compaction	Giving a lecture on the Google meet platform	quiz
Week12	5	-	Alleviating Aeration Stress	-	-
Week13	5	-	Alleviating	-	-

			Temperature Stress		
Week14	5	-	Alleviating Salinity Stress	-	-
Week15	3 rd month exam – theory & practical				
Week16	Final exam – theory & practical				

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Soil-Water-Plant Relationship Everything related to plant nutrition and physiology from books, magazines, etc
Special requirements (include for example workshops, periodicals, IT software, websites)	Soil-Water-Plant Relationship
Community-based facilities (include for example, guest Lectures , internship , field studies)	Studies related to Soil-Water-Plant Relationship

13. Admissions	
Pre-requisites	Soil-Water-Plant Relationship course
Minimum number of students	25
Maximum number of students	60

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

*University: Anbar
College : Agriculture
Department : Soil sciences &
water resources
Date Of Form Completion :
27/6/2021*

Dean 's Name

Date

*: /
/*

Signature

*Dean 's Assistant
ForScientific
Affairs*

Date : / /

Signature

*Head of
Department*

Date : / /

Signature

*Quality Assurance And University Performance
Manager Date : / /*

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	College of agriculture – Univ. of Anbar
2. University Department/Centre	Soil sciences & water resources
3. Programme Title	Soil-Water-Plant Relationship
4. Title of Final Award	Bachelor – Final year
5. Modes of Attendance offered	Distance Learning, E Learning
6. Accreditation	semesters
7. Other external influences	
8. Date of production/revision of this specification	Second semester – 2020-2021
9. Aims of the Programme	
Understanding the principles of Soil-Water-Plant Relationship	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1. Know the terminology of Soil-Water-Plant Relationship
- A2. Knowledge of the basics of Soil-Water-Plant Relationship and its relationship to fertility

B. Subject-specific skills

- B1. Ability to use some laboratory and field equipment and equipment
- B2. 2. The ability to apply mathematical equations commonly used in dietetics

Teaching and Learning Methods

1. The ability to make some field and laboratory measurements of some plant factors
2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment methods

Research and reports related to the subject, in addition to daily and monthly quick exams

C. Thinking Skills

- C1 Quick review of the previous lecture
- C2. Discussing with students' topics about the subject

Teaching and Learning Methods

1. The ability to make some field and laboratory measurements of some plant factors
2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment methods

1. Accreditation of student attendance
2. Adopting instant discussions for students

D. General and Transferable Skills (other skills relevant to employability and personal development)

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions.

Teaching and Learning Methods

1. The ability to make some field and laboratory measurements of some plant factors
2. The ability to use the units imposed by the arithmetic equations and how to convert them from one system to another

Assessment Methods

1. Accreditation of student attendance
2. Adopting instant discussions for students

11. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
the fourth	ASW403	Soil-Water-Plant Relationship		Bachelor Degree Requires (x) credits
				Subject Units Lectures Electronic Platform Internet Web

13. Personal Development Planning

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions

14. Admission criteria .

15. Key sources of information about the programme

Soil-Water-Plant Relationship

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A- Knowledge and Understanding

A1. Define Soil-Water-Plant Relationship

A2. Water and Water Potential

A3. Water and Water Potential in soil

A4. Water and Water Potential in plant

B. Subject-specific skills

B1. Ability to use some laboratory and field equipment and equipment

B2. The ability to apply mathematical equations commonly used in dietetics

Teaching and Learning Methods

1. Quick review of the previous lecture
2. Discussing with students topics about the subject

Assessment methods

1. Do quick daily tests
2. Giving students intellectual assignments
3. Giving exercises and asking for them

C. Thinking Skills

1. Quick review of the previous lecture
2. Discussing with students' topics about the subject

Teaching and Learning Methods

1. Quick review of the previous lecture
2. Discussing with students topics about the subject

Assessment methods

1. Do quick daily tests
2. Giving students intellectual assignments
3. Giving exercises and asking for them

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
Week1	5	Soil-Water-Plant Relationship	Define Soil-Water-Plant Relationship	Giving a lecture on the Google meet platform	quiz
Week2	5	-	Water and Water Potential	-	-
Week3	5	-	Water and Water Potential in soil	-	-
Week4	5	-	Water and Water Potential in plant	-	-
Week5	First month exam – theory & practical				
Week6	5	Soil-Water-Plant Relationship	Water and Water Potential in soil-plant-Atmosphere Continuum	Giving a lecture on the Google meet platform	quiz
Week7	5	-	Stress	-	-
Week8	5	-	Modification of Root zone for Alleviating Plant Stress	-	-
Week9	5	-	Alleviating Plant water Stress	-	-
Week10	2 nd month exam – theory & practical				
Week11	5	Soil-Water-Plant Relationship	Alleviating Compaction	Giving a lecture on the Google meet platform	quiz
Week12	5	-	Alleviating Aeration Stress	-	-
Week13	5	-	Alleviating	-	-

			Temperature Stress		
Week14	5	-	Alleviating Salinity Stress	-	-
Week15	3 rd month exam – theory & practical				
Week16	Final exam – theory & practical				

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Soil-Water-Plant Relationship Everything related to plant nutrition and physiology from books, magazines, etc
Special requirements (include for example workshops, periodicals, IT software, websites)	Soil-Water-Plant Relationship
Community-based facilities (include for example, guest Lectures , internship , field studies)	Studies related to Soil-Water-Plant Relationship

13. Admissions	
Pre-requisites	Soil-Water-Plant Relationship course
Minimum number of students	25
Maximum number of students	60

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form for The Academic

*University: Anbar
College: Agriculture of college
Department: soil and water resources
Date of Form Completion: 27/9/2021*

*Dean 's Name
Date: / /
Signature*

*Dean's Assistant for
Scientific Affairs
Date : / /
Signature*

*Head of Department
Date : / /
Signature*

*Quality Assurance And University Performance
Manager Date : / /
Signature*

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	College of agriculture-university of Anbar
2. University Department/Centre	Soil and water resources
3. Programme Title	Irrigation systems technologies
4. Title of Final Award	Bachelor of Agricultural Sciences
5. Modes of Attendance offered	School courses
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	27/9/2021
9. Aims of the Programme	
1. Obtaining the basic information and data needed for the preparation and mapping.	
2. The main means of carrying out land-related operations such as settlement, division, and reclamation.	
3. Planning and construction of projects such as canals, dams, roads	
4- Make the student able to measure direct and indirect distances and areas	
5- Raising areas, level, and graphics scales of all kinds	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A1- Make the student able to measure direct and indirect distances and areas,
A2 elevate areas,
A3level, and scale drawings of all kinds
A4 how to use it

B. Subject-specific skills

B1 - Practical lessons

B2 - Field exercises

B3 - Identify the types of maps and the costs of drawing

Teaching and Learning Methods

direct teaching

educational videos

Specialized websites

classmates

Assessment methods

daily exams

daily duties

Monthly exams

C. Thinking SkillsC1- Works in a team spirit

C2- Adheres to the ethics of the university institution

C3- Receives and accepts knowledge

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1- Irrigation Operations Department

D2 - Installation, installation and design of irrigation systems

D 3- Identifying scientific sources and references related to the work

D4 - Management, design, implementation, processing and maintenance of projects

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
First	ASW109	planar and topographical area		Bachelor Degree Requires (x) credits

13. Personal Development Planning

The urge to explore
Follow-up to periodicals and scientific publications
Gain skills related to field surveying and mapping

14. Admission criteria .

15. Key sources of information about the programme

Course books
Specialized scientific journals
Online lectures
Vocational training
Field visits

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Agriculture of college\ Anbar of University
2. University Department/Centre	Soil and water reassure
3. Course title/code	Survey and topographical
4. Programme(s) to which it contributes	<p>The area... its definition... its types... its importance.</p> <p>2. Measurement systems and units of measurement.</p> <p>.3 scale drawing.</p> <p>4. Scanning with string or tape.</p> <p>5. Flat plate lift</p> <p>6. Leveling and contour maps</p>
5. Modes of Attendance offered	<p>exams</p> <ul style="list-style-type: none"> • The opinions of students, the opinions of faculty members, and the opinions of alumni • Opinions of employers and stakeholders benefiting from technological and technological development in the field of specialization.
6. Semester/Year	Second
7. Number of hours tuition (total)	80
8. Date of production/revision of this Specification	10-6-2021
9. Aims of the Course	<p>1. Obtaining the necessary baseline information and data for the preparation and mapping.</p> <p>2. The main means for carrying out land-related operations, such as settlement, division, and reclamation.</p> <p>3. Planning and construction of projects such as canals, dams, roads... .</p> <p>Make the student able to measure direct and indirect distances and areas, elevate areas, level, and scale drawings of all kinds</p>
10. Learning Outcomes, Teaching ,Learning and Assessment Methode	<p>Make the student able to measure direct and indirect distances and areas, elevate areas, level, and scale drawings of all kinds and how to use it</p>
A- Knowledge and Understanding A5. A6 .	<p>A1- Prescribed books.</p> <p>A2- Agricultural scientific journals and websites in general.</p> <p>A3- Displaying electronic slides to focus knowledge and science in the mind</p>
B. Subject-specific skills	<p>B1- Exams</p> <p>B 2- Students' opinions, faculty members' opinions, and graduates' opinions</p> <p>B 3- The opinions of employers and beneficiaries, in accordance with scientific and technological development in the field of specialization.</p>

D. General and Transferable Skills (other skills relevant to employability and personal development)				D1. Adaptation to field conditions D2. Recognize the potential risks of fieldwork	
11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	theoretical	3	Discretionary methods	internet
1	3	practical	2	Discretionary methods	Video
2	2	theoretical	3	Direct measurement of distances	internet
2	3	practical	2	Direct measurement of distances	Video
3	2	theoretical	3	Setting up and dropping columns	internet
3	3	practical	2	Setting up and dropping columns	Video
4	2	theoretical	3	Skip the hurdles	internet
4	3	practical	2	Skip the hurdles	Video
5	2	exams			
5	3	exams			
6	2	theoretical	3	Tape scanning	internet
6	3	practical	2	Tape scanning	Video
7	2	theoretical	3	Flat panel scanning	internet
7	3	practical	2	Flat panel scanning	Video
8	2	theoretical	3	leveling	internet
8	3	practical	2	leveling	Video
9	2	exams			
9	3	exams			
10	2	theoretical	3	longitudinal sections	internet
10	3	practical	2	longitudinal sections	Video
11	2	theoretical	3	cross sections	internet
11	3	practical	2	cross sections	Video
12	2	theoretical	3	contour map	internet
12	3	practical	2	contour map	Video
13	2	exams			
13	3	exams			
14	2	practical	2	Calculation of drilling and backfill cubes	internet
14	3	theoretical	3	Calculation of drilling and backfill cubes	Video
15	2	practical	2	Review	internet
15	3	theoretical	3	Review	Video
16	2	practical	2	Review	internet
16	3	theoretical	3	Review	Video
12. Infrastructure					
Required reading: ·				CORE TEXTS · COURSE MATERIALS · OTHER	

pecial requirements	workshops, periodicals, IT software, websites)
Community-based facilities	guest Lectures , internship , field studies
13. Admissions	
Pre-requisites	
Minimum number of students	5
Maximum number of students	100

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Course Description Form

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	University of Anbar
2. University Department/Centre	College of agriculture / soil science and water resource
3. Programme Title	Leveling ASW211
4. Title of Final Award	-
5. Modes of Attendance offered	Mandatory
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	Second Semester / Second year
9. Aims of the Programme	
A- That the student knows the importance of settlement and amendment.	
B - Understand the most important methods used in settlement and amendment processes.	
C - that the student understands the use of mechanisms and the development of a schedule and calculating costs	

11. Course Structure					
Week	hour	Required learning	Unit name	Teaching method	assessment method
First	5	Introductory introduction and the purpose of the study of land leveling, definition of tools	Leveling	Recitation, work and field practice	Tests and reports
Second	5	Why the leveling and adjustment process	Leveling	Recitation, work and field practice	Tests and reports
third	5	Leveling and grading agricultural land. Prepare leveling tables	Leveling	Recitation, work and field practice	Tests and reports
fourth	5	Preparation of longitudinal and transverse sections	Leveling	Recitation, work and field practice	Tests and reports
fifth	5	Preparing contour maps, using leveling devices	Leveling	Recitation, work and field practice	Tests and reports
sixth	5	First monthly exam	Leveling	Recitation, work and field practice	Tests and reports
seventh	5	land reclamation method Field work and preparation of a leveling map	Leveling	Recitation, work and field practice	Tests and reports
eighth	5	One-way leveling field practice	Leveling	Recitation, work and field practice	Tests and reports
ninth	5	Two-way leveling Field work and reading	Leveling	Recitation, work and field practice	Tests and reports
tenth	5	The mechanisms used in the leveling and their specifications	Leveling	Recitation, work and field practice	Tests and reports
eleventh	5	Prepare a time schedule	Leveling	Recitation, work and field practice	Tests and reports
twelfth	5	The second monthly exam	Leveling	Recitation, work and field practice	Tests and reports
Thirteenth	5	Cost Accounts	Leveling	Recitation, work and field practice	Tests and reports
fourteenth	5	Feasibility Solving exercises	Leveling	Recitation, work and field practice	Tests and reports
Fifteenth	5	Field work test and equipment use	Leveling	Recitation, work and field practice	Tests and reports

12 . Infrastructure	
Required readings: ♣ Course Books Others	1- Land leveling and modification/ 2- Soil leveling / Land Reclamation Institution 3- Printed lectures
special requirements -	
Social services (including, for example, guest lectures, professional training and field studies)	

13. Acceptance	
Prerequisites	Surveying / Engineering Drawing
Minimum number of students	20
The largest number of students is	40

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Course Description Form

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	University of Anbar
2. University Department/Centre	College of agriculture / soil science and water resource
3. Programme Title	Soil Physics ASW300
4. Title of Final Award	-
5. Modes of Attendance offered	Mandatory
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	First Semester / Third year
9. Aims of the Programme	
A- That the student knows the importance of settlement and amendment.	
B - Understand the most important methods used in settlement and amendment processes.	
C - that the student understands the use of mechanisms and the development of a schedule and calculating costs	

10. Learning outcomes and methods of teaching, learning and assessment

A- Knowledge and understanding:

1- Knowing the physical properties of the soil, methods of estimating it and the factors affecting it.

2- Identification of the most important mathematical laws that describe physical properties and the conditions for their derivation.

3- Knowledge of all scientific terms to describe the physical behavior of soil.

4- Knowing the most important classifications and mechanisms used in evaluating the physical behavior of soil.

b- Subject-specific skills:

1- Exercising skills related to how to measure the physical properties of soil

2- Use of laboratory and field equipment and equipment

3- The ability to determine the texture of the soil.

4- The ability to characterize the structure of the soil.

5- The ability to determine the dynamic properties of the soil.

6- The ability to calculate the efforts affecting the movement of water in the soil.

Teaching and learning methods

1- Theoretical and practical exams (weekly and monthly)

2- Intellectual questions

3- Field Practices

4- Explanation and clarification

5- Preparing scientific reports for subjects related to the course

6- Calculating the results using the studied mathematical equations.

7- Preparing a research for one of the scientific topics in each studied subject

Evaluation methods

1- Ask questions and discuss weekly answers

2- Reports and attendance

3- Duties

4- Weekly and monthly exams

C- Thinking skills:

1- Developing the student's ability to debate and dialogue and building the student's personality at the academic level

2- Improving the student's skills in using time for work and assignments

3- Improving students' ability to apply theoretical concepts and apply them in the field.

D - General and transferable skills (other skills related to employability and personal development).

1- Develop students' intellectual and practical ability.

2- The student's ability to simulate and employ the results.

3- Improving the personal and individual skills of students.

4- Managing time and prioritizing tasks

11. Course Structure					
Week	hour	Required learning	Unit name	Teaching method	assessment method
First	5	Definition of soil physics and the purpose of its study, density estimation	Soil Physics	Recitation, work and field practice	Tests and reports
Second	5	Particulate volume distribution, soil texture estimation	Soil Physics	Recitation, work and field practice	Tests and reports
third	5	Specific surface area, examples of derivation and calculation methods	Soil Physics	Recitation, work and field practice	Tests and reports
fourth	5	Soil structure, construction theories, weighted and geometric Diameter	Soil Physics	Recitation, work and field practice	Tests and reports
fifth	5	Soil dynamic properties, plasticity and liquid limit estimation	Soil Physics	Recitation, work and field practice	Tests and reports
sixth	5	First monthly exam	Soil Physics	Recitation, work and field practice	Tests and reports
seventh	5	Properties of water in porous media, methods for estimating soil moisture	Soil Physics	Recitation, work and field practice	Tests and reports
eighth	5	Soil water content and voltage, estimation of capillary height	Soil Physics	Recitation, work and field practice	Tests and reports
ninth	5	Water flow in saturated soils, estimation of saturated water conductivity	Soil Physics	Recitation, work and field practice	Tests and reports
tenth	5	Water run-off in unsaturated soils	Soil Physics	Recitation, work and field practice	Tests and reports
eleventh	5	The infiltration in the soil, the estimation infiltration in the field	Soil Physics	Recitation, work and field practice	Tests and reports
twelfth	5	The second monthly exam	Soil Physics	Recitation, work and field practice	Tests and reports
Thirteenth	5	Air and Soil Aeration, Measurement Methods	Soil Physics	Recitation, work and field practice	Tests and reports
fourteenth	5	Soil temperature and heat runoff	Soil Physics	Recitation, work and field practice	Tests and reports
Fifteenth	5	A test of hands-on experiences that have been graded	Soil Physics	Recitation, work and field practice	Tests and reports

12 . Infrastructure	
Required readings: ♣ Course Books Others	1- Soil Physics / Dr. Hisham Mahmoud Hassan 2- Introduction to Soil Physics (translator) Dr. Gamal Sherif Dogramaji 3- Printed lectures
special requirements -	
Social services (including, for example, guest lectures, professional training and field studies)	

13. Acceptance	
Prerequisites	Principles of Soil
Minimum number of students	20
The largest number of students is	40

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Course Description Form

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	University of Anbar
2. University Department/Centre	College of agriculture / soil science and water resource
3. Programme Title	Soil Physics ASW300
4. Title of Final Award	-
5. Modes of Attendance offered	Mandatory
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	First Semester / Third year
9. Aims of the Programme	
A- That the student knows the importance of settlement and amendment.	
B - Understand the most important methods used in settlement and amendment processes.	
C - that the student understands the use of mechanisms and the development of a schedule and calculating costs	

10. Learning outcomes and methods of teaching, learning and assessment

A- Knowledge and understanding:

1- Knowing the physical properties of the soil, methods of estimating it and the factors affecting it.

2- Identification of the most important mathematical laws that describe physical properties and the conditions for their derivation.

3- Knowledge of all scientific terms to describe the physical behavior of soil.

4- Knowing the most important classifications and mechanisms used in evaluating the physical behavior of soil.

b- Subject-specific skills:

1- Exercising skills related to how to measure the physical properties of soil

2- Use of laboratory and field equipment and equipment

3- The ability to determine the texture of the soil.

4- The ability to characterize the structure of the soil.

5- The ability to determine the dynamic properties of the soil.

6- The ability to calculate the efforts affecting the movement of water in the soil.

Teaching and learning methods

1- Theoretical and practical exams (weekly and monthly)

2- Intellectual questions

3- Field Practices

4- Explanation and clarification

5- Preparing scientific reports for subjects related to the course

6- Calculating the results using the studied mathematical equations.

7- Preparing a research for one of the scientific topics in each studied subject

Evaluation methods

1- Ask questions and discuss weekly answers

2- Reports and attendance

3- Duties

4- Weekly and monthly exams

C- Thinking skills:

1- Developing the student's ability to debate and dialogue and building the student's personality at the academic level

2- Improving the student's skills in using time for work and assignments

3- Improving students' ability to apply theoretical concepts and apply them in the field.

D - General and transferable skills (other skills related to employability and personal development).

1- Develop students' intellectual and practical ability.

2- The student's ability to simulate and employ the results.

3- Improving the personal and individual skills of students.

4- Managing time and prioritizing tasks

11. Course Structure					
Week	hour	Required learning	Unit name	Teaching method	assessment method
First	5	Definition of soil physics and the purpose of its study, density estimation	Soil Physics	Recitation, work and field practice	Tests and reports
Second	5	Particulate volume distribution, soil texture estimation	Soil Physics	Recitation, work and field practice	Tests and reports
third	5	Specific surface area, examples of derivation and calculation methods	Soil Physics	Recitation, work and field practice	Tests and reports
fourth	5	Soil structure, construction theories, weighted and geometric Diameter	Soil Physics	Recitation, work and field practice	Tests and reports
fifth	5	Soil dynamic properties, plasticity and liquid limit estimation	Soil Physics	Recitation, work and field practice	Tests and reports
sixth	5	First monthly exam	Soil Physics	Recitation, work and field practice	Tests and reports
seventh	5	Properties of water in porous media, methods for estimating soil moisture	Soil Physics	Recitation, work and field practice	Tests and reports
eighth	5	Soil water content and voltage, estimation of capillary height	Soil Physics	Recitation, work and field practice	Tests and reports
ninth	5	Water flow in saturated soils, estimation of saturated water conductivity	Soil Physics	Recitation, work and field practice	Tests and reports
tenth	5	Water run-off in unsaturated soils	Soil Physics	Recitation, work and field practice	Tests and reports
eleventh	5	The infiltration in the soil, the estimation infiltration in the field	Soil Physics	Recitation, work and field practice	Tests and reports
twelfth	5	The second monthly exam	Soil Physics	Recitation, work and field practice	Tests and reports
Thirteenth	5	Air and Soil Aeration, Measurement Methods	Soil Physics	Recitation, work and field practice	Tests and reports
fourteenth	5	Soil temperature and heat runoff	Soil Physics	Recitation, work and field practice	Tests and reports
Fifteenth	5	A test of hands-on experiences that have been graded	Soil Physics	Recitation, work and field practice	Tests and reports

12 . Infrastructure	
Required readings: ♣ Course Books Others	1- Soil Physics / Dr. Hisham Mahmoud Hassan 2- Introduction to Soil Physics (translator) Dr. Gamal Sherif Dogramaji 3- Printed lectures
special requirements -	
Social services (including, for example, guest lectures, professional training and field studies)	

13. Acceptance	
Prerequisites	Principles of Soil
Minimum number of students	20
The largest number of students is	40

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

University: Alanbar

College :Agriculture

Department :Soil Science and Water Resources

Date Of Form Completion : 20/9/2021

Dean 's Name

Date : / /

Signature

*Dean 's Assistant
ForScientific
Affairs*

Date : / /

Signature

*Head of
Department*

Date : / /

Signature

Quality Assurance And University Performance

ManagerDate : / /

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	College of Agriculture
2. University Department/Centre	Soil Science and Water Resources
3. Programmed Title	Soil Environment and Meteorology
4. Title of Final Award	degree is Ph.D
5. Modes of Attendance offered	semester
6. Accreditation	Quality Assurance Manual
7. Other external influences	Field Training
8. Date of production/revision of this specification	20/9/2021
9. Aims of the Programme	
A- That the student understand the goals and objectives of studying the environment and its relationship to climate and its effects on agriculture and humans	
B - That the student distinguish between the components of the climate and the interactions of environmental factors and their interactions.	
c- That the student knows how to study the climatic elements and their interactions and the climatic maps.	
D - The work is done by studying each of the factors that make up the climate and its effects on the environment and vegetation, how it is measured, and the factors of overlap between them.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1- Know all the terms related to weather and climate.

A2- Knowing the equations that link the relationships between the parameters and their interactions.

A-3- Knowing the theories currently in force to study the exhibits and their effects.

A4- Knowledge of global and local climatic classifications.

B. Subject-specific skills

B-1- That the student link between theoretical and applied knowledge of environmental and climate elements.

B-2- That the student distinguish between different climates and environments.

B-3- That the student proposes new methods in the application and study of environmental elements.

B-4- The student's ability to analyze the various elements of the environment and transform them into applied concepts.

B-5- The student's ability to compare the different environments and their components and the different environmental and climatic systems

Teaching and Learning Methods

1- Brainstorming

2- Lectures on the theoretical side

3- Field visits to neighboring environments

4- Preparing reports from the Internet on scientific topics in the field of environment and meteorology

5- Explanation and clarification

6- Use of scientific resources related to the course

Assessment methods

1 - daily test

2-Monthly test

3- Field test

4- Final semester exam

C. Thinking Skills

C1. The thinking skill according to the student's ability and that the goal of this skill is for the student to believe in what is tangible and to understand when, what and how he should think and work to improve the ability to think reasonably

C2- Observation and Perception

C3 - Analysis and interpretation

C4 - Preparation and calendar

Teaching and Learning Methods

1- Brainstorming

2- Lectures on the theoretical side

3- Field visits to neighboring environments

4- Preparing reports from the Internet on scientific topics in the field of environment

and meteorology

5- Explanation and clarification

6- Use of scientific resources related to the course

Assessment methods

1 - daily test

2-Monthly test

3- Field test

4- Final semester exam

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1- Verbal communication (the ability to express ideas clearly and confidently in speech)

D2- Teamwork (working with confidence within a work team)

D3- Investigation analysis) Gathering information in a systematic and scientific manner to establish facts and principles as a solution to a specific problem.

D 4- Written communication) The ability to express yourself clearly in writing.

Teaching and Learning Methods

1- Brainstorming

2- Lectures on the theoretical side

3- Field visits to neighboring environments

4- Preparing reports from the Internet on scientific topics in the field of environment and meteorology

5- Explanation and clarification

6- Use of scientific resources related to the course

Assessment Methods

1- daily test

2-Monthly test

3- Field test

4- Final semester exam

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
The second stage	ASW204	Soil Environment and Meteorology		Bachelor Degree Requires (x) credits
				5

13. Personal Development Planning

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions

14. Admission criteria .

central

15. Key sources of information about the programme

- 1 - The website of the college and university
- 2 - University Guide
- 3 - Central Library
- 4 - The most important books and resources for the department
- 5 - the internet

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Agriculture
2. University Department/Centre	Soil Science and Water Resources
3. Course title/code	Soil Environment and Meteorology
4. Programme(s) to which it contributes	Quality Assurance Manual
5. Modes of Attendance offered	Weekly lectures
6. Semester/Year	First Semester
7. Number of hours tuition (total)	30 hours for the first semester
8. Date of production/revision of this Specification	20/9/2021
9. Aims of the Course	
A- That the student understand the goals and objectives of studying the environment and its relationship to climate and its effects on agriculture and humans	
B - That the student distinguish between the components of the climate and the interactions of environmental factors and their interactions.	
c- That the student knows how to study the climatic elements and their interactions and the climatic maps.	
D - The work is done by studying each of the factors that make up the climate and its effects on the environment and vegetation, how it is measured, and the factors of overlap between them.	

10• Learning Outcomes, Teaching ,Learning and Assessment Methode

A. Knowledge and Understanding

A1- Know all the terms related to weather and climate.

A2- Knowing the equations that link the relationships between the parameters and their interactions.

A-3- Knowing the theories currently in force to study the exhibits and their effects.

A4- Knowledge of global and local climatic classifications.

B. Subject-specific skills

B-1- That the student link between theoretical and applied knowledge of environmental and climate elements.

B-2- That the student distinguish between different climates and environments.

B-3- That the student proposes new methods in the application and study of environmental elements.

B-4- The student's ability to analyze the various elements of the environment and transform them into applied concepts.

B-5- The student's ability to compare the different environments and their components and the different environmental and climatic systems

Teaching and Learning Methods

1- Brainstorming

2- Lectures on the theoretical side

3- Field visits to neighboring environments

4- Preparing reports from the Internet on scientific topics in the field of environment and meteorology

5- Explanation and clarification

6- Use of scientific resources related to the course

Assessment methods

1 - daily test

2-Monthly test

3- Field test

4- Final semester exam

C. Thinking Skills

C1. A- The thinking skill according to the student's ability and that the goal of this skill is for the student to believe in what is tangible and to understand when, what and how he should think and work to improve the ability to think reasonably

C2- Observation and Perception

C3 - Analysis and interpretation

C4 - Preparation and calendar

Teaching and Learning Methods

- 1- Brainstorming
- 2- Lectures on the theoretical side
- 3- Field visits to neighboring environments
- 4- Preparing reports from the Internet on scientific topics in the field of environment and meteorology
- 5- Explanation and clarification
- 6- Use of scientific resources related to the course

Assessment methods

- 1 - daily test
- 2-Monthly test
- 3- Field test
- 4- Final semester exam

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1- (Verbal communication)the ability to express ideas clearly and confidently in speech)
- D2- (Teamwork (working) with confidence within a work team)
- D3- (Investigation analysis) Gathering information in a systematic and scientific manner to establish facts and principles as a solution to a specific problem.
- D 4- (Written communication) The ability to express yourself clearly in writing

11. Course Structure

Week	Hours	ILOs	Unit/Module orTopic Title	Teaching Method	Assessment Method
1	5		General definitions and concepts	Giving a lecture on the Google meet platform	Written exams
2	5		Atmosphere - Layers of the atmosphere and its gaseous components	Giving a lecture on the Google meet platform	Written exams
3	5		Energy - Radiation - Solar Radiation	Giving a lecture on the Google meet platform	Written exams
4	5		Light - its components - and its effects on the environment and plants	Giving a lecture on the Google meet platform	Written exams
5	5		Temperature - daily temperature regime - thermal regimes - factors affecting temperatures	Giving a lecture on the Google meet platform	Written exams
6	5		Atmospheric pressure - factors affecting it	Giving a lecture on the Google meet platform	Written exams
7	5		Condensation, clouds and precipitation	Giving a lecture on the Google meet platform	Written exams
8	5		first month exam	Giving a lecture on the Google meet platform	Written exams
9	5		Wind - Types of wind - Effects of wind - Effects of wind on plants	Giving a lecture on the Google meet platform	Written exams

10	5	Air fronts and air masses - types and effects	Giving a lecture on the Google meet platform	Written exams
11	5	Evaporation and transpiration - and the factors affecting them	Giving a lecture on the Google meet platform	Written exams
12	5	Climatology and meteorology	Giving a lecture on the Google meet platform	Written exams
13	5	second month exam	Giving a lecture on the Google meet platform	Written exams
14	5	Climatic classifications	Giving a lecture on the Google meet platform	Written exams
15	5	scientific trip	Giving a lecture on the Google meet platform	Written exams

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Dr.. Hikmat Mustafa Environment University of Baghdad University of Baghdad
Minimum number of students	Dr.. Muhammad Nazir, Foundations and Crop Environment, University of Baghdad, University of Baghdad
Maximum number of students	

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

*University: Alanbar
College : College of Agriculture
Department : Soil Science and Water Resources
Date Of Form Completion : 20/9/2021*

*Dean 's Name
Date : / /*

*Dean 's Assistant
ForScientific
Affairs
Date : / /*

*Head of
Department
Date : / /*

Signature

Signature

Signature

*Quality Assurance And University Performance
ManagerDate : / /
Signature*

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

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

1. Teaching Institution	College of Agriculture
2. University Department/Centre	Soil Science and Water Resources
3. Programmed Title	Principles of Plane and Topographic Surveying
4. Title of Final Award	degree is Ph.D
5. Modes of Attendance offered	semester
6. Accreditation	Quality Assurance Manual
7. Other external influences	Field Training
8. Date of production/revision of this specification	20/9/2021
9. Aims of the Programme	
1- Studying the basic principles and rules of space for preparing maps and planning projects.	
2-Obtaining the basic information and data needed for Abacus Mapping.	
3- Installing engineering works sites.	
4-Planning projects, constructing canals, dams, and transportation routes.	
5- Division, settlement and land reclamation.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1. That the student recognize the division of spaces.
- A2- The student categorizes the types of spaces according to the basis on which the division is based.
- A3- The student should separate the types of spaces according to the purpose of the survey process.
- A4-n The student knows the scientific methods used in the division process.
- A 5- The student should evaluate the types of survey, the basic methods of their implementation, their importance, and the area of the areas to be surveyed.

B. Subject-specific skills

- B1 - Training the student to use the various devices used in field survey work
- B 2 - The student's ability to evaluate the most important processes associated with making measurements.
- B 3 - Teaching the student how to obtain the basic information and data necessary for preparing and drawing maps.

Teaching and Learning Methods

- 1- Brainstorming
- 2- The thinking strategy according to the student's ability, for example, if the student can learn to make the necessary mathematical measurements and calculations to conduct the survey and express it in the form of a map or a graph and know its importance in detail.
- 3- Thinking strategy according to the student's ability, for example, if the student can learn to make the necessary measurements and mathematical calculations to conduct the survey and express it in the form of a map or graph and know its importance in detail
- 4- Explanation and clarification
- 5- Use of scientific resources related to the course
- 6- Preparing reports by students

Assessment methods

- 1 - daily test
- 2-Monthly test
- 3- Field test
- 4- Final semester exam

C. Thinking Skills

- C1. The thinking skill according to the student's ability and that the goal of this skill is for the student to believe in what is tangible and to understand when, what and how he should think and work to improve the ability to think reasonably
- C2- Observation and Perception
- C3 - Analysis and interpretation
- C4 - Preparation and calendar

Teaching and Learning Methods

1- Brainstorming

2- The thinking strategy according to the student's ability, for example, if the student can learn to make the necessary mathematical measurements and calculations to conduct the survey and express it in the form of a map or a graph and know its importance in detail.

3- Thinking strategy according to the student's ability, for example, if the student can learn to make the necessary measurements and mathematical calculations to conduct the survey and express it in the form of a map or graph and know its importance in detail

4- Explanation and clarification

5- Use of scientific resources related to the course

6- Preparing reports by students

Assessment methods

1 - daily test

2-Monthly test

3- Field test

4- Final semester exam

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1- (Verbal communication) the ability to express ideas clearly and confidently in speech)
- D2- (Teamwork (working) with confidence within a work team)
- D3- (Investigation analysis) Gathering information in a systematic and scientific manner to establish facts and principles as a solution to a specific problem.
- D 4- (Written communication) The ability to express yourself clearly in writing.

Teaching and Learning Methods

- 1- Brainstorming
- 2- The thinking strategy according to the student’s ability, for example, if the student can learn to make the necessary mathematical measurements and calculations to conduct the survey and express it in the form of a map or a graph and know its importance in detail.
- 3- Thinking strategy according to the student’s ability, for example, if the student can learn to make the necessary measurements and mathematical calculations to conduct the survey and express it in the form of a map or graph and know its importance in detail
- 4- Explanation and clarification
- 5- Use of scientific resources related to the course
- 6- Preparing reports by students

Assessment Methods

- 1- daily test
- 2-Monthly test
- 3- Field test
- 4- Final semester exam

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
The first	ASW109	Principles of Plane and Topographic Surveying		Bachelor Degree Requires (x) credits 5

13. Personal Development Planning

Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions

14. Admission criteria .

central

15. Key sources of information about the programme

- 1 - The website of the college and university
- 2 - University Guide
- 3 - Central Library
- 4 - The most important books and resources for the department
- 5 - the internet

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Agriculture
2. University Department/Centre	Soil Science and Water Resources
3. Course title/code	Principles of Plane and Topographic Surveying
4. Programme(s) to which it contributes	Quality Assurance Manual
5. Modes of Attendance offered	Weekly lectures
6. Semester/Year	First Semester
7. Number of hours tuition (total)	30 hours for the first semester
8. Date of production/revision of this Specification	20/9/2021
9. Aims of the Course	
1- Studying the basic principles and rules of space for preparing maps and planning projects.	
2- Obtaining the basic information and data needed for Abacus Mapping .	
3- Installing engineering works sites.	
4- Planning projects, constructing canals, dams, and transportation routes .	
5- Division, settlement and land reclamation.	

10• Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding.

- . A1- That the student recognize the division of spaces.
- A2- The student categorizes the types of spaces according to the basis on which the division is based.
- A3- The student should separate the types of spaces according to the purpose of the survey process.
- A4- That the student knows the scientific methods used in the division process.
- A5- The student should evaluate the types of survey, the basic methods of their implementation, their importance, and the area of the areas to be surveyed.

B. Subject-specific skills

- B1 - Training the student to use the various devices used in the field survey work
- B 2 - The student's ability to evaluate the most important processes associated with making measurements.
- B 3 - Teaching the student how to obtain the basic information and data necessary for preparing and drawing maps.

Teaching and Learning Methods

- 1- Brainstorming
- 2- The thinking strategy according to the student's ability, for example, if the student can learn to make the necessary mathematical measurements and calculations to conduct the survey and express it in the form of a map or a graph and know its importance in detail.
- 3- Thinking strategy according to the student's ability, for example, if the student can learn to make the necessary measurements and mathematical calculations to conduct the survey and express it in the form of a map or graph and know its importance in detail
- 4- Explanation and clarification
- 5- Use of scientific resources related to the course
- 6- Preparing reports by students

Assessment methods

- 1 - daily test
- 2-Monthly test
- 3- Field test
- 4- Final semester exam

C. Thinking Skills

C1. A- The thinking skill according to the student's ability and that the goal of this skill is for the student to believe in what is tangible and to understand when, what and how he should think and work to improve the ability to think reasonably

C2- Observation and Perception

C3 - Analysis and interpretation

C4 - Preparation and calendar

Teaching and Learning Methods

1- Brainstorming

2- The thinking strategy according to the student's ability, for example, if the student can learn to make the necessary mathematical measurements and calculations to conduct the survey and express it in the form of a map or a graph and know its importance in detail.

3- Thinking strategy according to the student's ability, for example, if the student can learn to make the necessary measurements and mathematical calculations to conduct the survey and express it in the form of a map or graph and know its importance in detail

4- Explanation and clarification

5- Use of scientific resources related to the course

6- Preparing reports by students

Assessment methods

1 - daily test

2-Monthly test

3- Field test

4- Final semester exam

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1- (Verbal communication) the ability to express ideas clearly and confidently in speech)

D2- (Teamwork working) with confidence within a work team)

D3- (Investigation analysis) Gathering information in a systematic and scientific manner to establish facts and principles as a solution to a specific problem.

D 4- (Written communication) The ability to express yourself clearly in writing

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	5		Define space and its divisions	Recitation - discussion	Written exams
2	5		Measurement units	Recitation - discussion	Written exams
3	5		drawing scale	Recitation - discussion	Written exams
4	5		Direct measurement of distances	Recitation - discussion	Written exams

5	5		Setting up and dropping columns	Recitation - discussion	Written exams
6	5		Parallels	Recitation - discussion	Written exams
7	5		Calculating the areas of shapes	Recitation - discussion	Written exams
8	5		String scanning	Recitation - discussion	Written exams
9	5		Flat panel scanning	Recitation - discussion	Written exams
10	5		Indirect measurement of distances	Recitation - discussion	Written exams
11	5		leveling	Recitation - discussion	Written exams
12	5		Levels Calculation Methods	Recitation - discussion	Written exams
13	5		sequential settlement	Recitation - discussion	Written exams
14	5		Longitudinal and transverse sections	Recitation - discussion	Written exams
15	5		Contour lines or contour lines	Recitation - discussion	Written exams

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions

Pre-requisites	Al-Khafaf, Riyadh Saleh, 2000, The Foundations of Planar and Topographic Surveying, College of Agriculture, University of Mosul, Iraq
Minimum number of students	Yunus, Samir Muhammad, 2003-2004, Agricultural Survey, Department of Agricultural Engineering, Faculty of Agriculture, Alexandria University, Egypt.
Maximum number of students	

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

University:

College :

Department :

Date Of Form Completion :

Dean 's Name

Date : / /

Signature

*Dean 's Assistant
ForScientific
Affairs*

Date : / /

Signature

*Head of
Department*

Date : / /

Signature

Quality Assurance And University Performance

ManagerDate : / /

Signature

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1.
- A2.
- A3.
- A4.
- A5.
- A6.

B. Subject-specific skills

- B1.
- B2.
- B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills

- C1.
- C2.
- C3.
- C4.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1.
- D2.
- D3.
- D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

15. Key sources of information about the programme

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Gollage of agriculture – Univ. of Anbar
2. University Department/Centre	Soil sciences & water resources
3. Course title/code	principle of soil science/ASW201
4. Programme(s) to which it contributes	Distance learning E learning
5. Modes of Attendance offered	E learning
6. Semester/Year	Second semester/ 2020 - 2021
7. Number of hours tuition (total)	60
8. Date of production/revision of this Specification	25- 9 – 2021

9. Aims of the Course

Introducing the student to the structure of the soil and what are the factors of its formation and the processes that take place in it in addition to the components of the soil, its phases, its varieties and its physical, chemical, fertility and biological characteristics that directly or indirectly affect the plant and productivity and the methods of soil sampling through which the moisture content is determined or the level of the nutrient element in Soil The types of microorganisms and the nature of their livelihood and nutrition are also identified.

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A1. Know the terminology of the principles of soil science

A2. Introduction to the branches of the Department of Soil and Water Resources

A3.

A4.

A5.

A6 .

B. Subject-specific skills

B1. Ability to use some laboratory and field equipment and equipment

B2. The ability to apply mathematical equations commonly used in soil science principles

B3.

Teaching and Learning Methods

1- Ability to use some laboratory and field equipment and equipment

2- The ability to apply mathematical equations commonly used in soil science principles

3-

Assessment methods

1- The ability to make some field and laboratory measurements of some factors of soil science principles

2- The ability to use the units imposed by the units of measurement and how to convert them from one system to another

C. Thinking Skills

C1. Quick review of the previous lecture

C2. Students discuss topics about the subject

C3.

C4.

Teaching and Learning Methods

1- Do quick daily tests

2- Giving intellectual assignments to students

3- Giving exercises and asking for them

Assessment methods

Daily exams - reports - student attendance - monthly exams
daily exams

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Conducting field visits to some research stations to follow up on some problems related to field work and try to find appropriate solutions.

D2.

D3.

D4.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
first	5	Soil formation and formation	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
second	5	Soil physical properties	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
third	5	soil water	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
fourth	5	Colloids and soil chemical properties	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
Fifth	5	Soil salinity and alkalinity	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
Sixth	5	The biological and biochemical properties of the soil	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
seventh	5	Soil fertility and plant nutrition	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
eight	5	Soil survey and classification	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
ninth	5	Estimation of	principle of	The lecture will	Daily and monthly

		bulk and solids density and percentage of porosity	soil science	be delivered via google meet	exams and reports
The tenth	5	Determination of moisture content in soil	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
eleventh	5	Volumetric analysis of soil particles	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports
Twelfth	5	Preparation of the soil saturated paste	principle of soil science	The lecture will be delivered via google meet	Daily and monthly exams and reports

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Soil Principles / Abdullah Najm Al-Ani
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Pen, paper and calculator
Minimum number of students	30
Maximum number of students	50

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation*

Academic Program Specification Form For The Academic

University:

College :

Department :

Date Of Form Completion :

Dean 's Name

Date : / /

Signature

*Dean 's Assistant
ForScientific
Affairs*

Date : / /

Signature

*Head of
Department*

Date : / /

Signature

Quality Assurance And University Performance

ManagerDate : / /

Signature

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1.
- A2.
- A3.
- A4.
- A5.
- A6.

B. Subject-specific skills

- B1.
- B2.
- B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills

- C1.
- C2.
- C3.
- C4.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1.
- D2.
- D3.
- D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

15. Key sources of information about the programme

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Gollage of agriculture – Univ. of Anbar
2. University Department/Centre	Soil sciences & water resources
3. Course title/code	surveying/ASW109
4. Programme(s) to which it contributes	-----
5. Modes of Attendance offered	Distance learning E learning
6. Semester/Year	Second semester/ 2019 - 2020
7. Number of hours tuition (total)	60
8. Date of production/revision of this Specification	24/9/2021
9. Aims of the Course	

To familiarize students with what is an area, its types, types of survey, and the specifications of a surveyor, Drawing scale for making maps and types of scales, Methods of measurement on horizontal and inclined lands, tools used in measurement and their accessories, How to measure across obstacles and how to bypass families of all kinds, methods of chain and tape surveys, The flat plate and its accessories, how to use it, scanning methods, its advantages and disadvantages, optical devices such as theodolite, its parts and uses, The leveling device, its parts, uses, methods for reading levels, how the level table works, longitudinal sections, contour lines and their specifications and the contour period.

10. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A1. The student should know the meaning of space and its types

A2. Get to know the nature of the surveyor's work, survey teams, survey methods and tools for measuring distances

A3. Measurement methods and the use of machines and devices for measuring distances and levels.

A4. How to transfer natural and industrial features to a map at a specific scale

B. Subject-specific skills

B1. Must have arithmetic skills such as fractions, angles and roots,

B2. He also has the imagination to make the imaginary lines he needs in the measurements

B3. He must have the ability to draw and choose the best methods of measurement, he must be aware of the type of devices used and determine the best based on the conditions surrounding the work, in addition to the possibility of reading maps and obtaining information from them.

Teaching and Learning Methods

The student performs field work to find out the work needs to be accomplished by choosing the locations of the stations and dividing the survey work into sections if the spaces are large, determining the best way to accomplish the work and using the best and most accurate equipment to complete the survey operations in the best way.

Assessment methods

daily exams

Reports

Student attendance

monthly exams

Semester exams

C. Thinking Skills

C1. Knowing the student's tendencies about a specific field of knowledge within the

curriculum

C2. Determining the educational methods that affect the student

C3.

C4.

Teaching and Learning Methods

The student performs field work to find out the work needs to be accomplished by choosing the locations of the stations and dividing the survey work into sections if the spaces are large, determining the best way to accomplish the work and using the best and most accurate equipment to complete the survey operations in the best way.

Assessment methods

daily exams

Reports

Student attendance

monthly exams

Semester exams

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Conducting field visits to some projects to see the works and the nature of the work of the devices

D2. The difficulties and obstacles facing the surveyor during the survey operations, and how these difficulties are avoided.

D3.

D4.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	5	<p>Theoretical: area, the importance of area and its relationship with other sciences, the information that a surveyor is supposed to possess, the importance of area and survey maps in the field of agriculture and forestry, types of survey, types of area, units of measurement</p> <p>Practical: International systems of units of measurement, the English system (sexage), the</p>	Surveying	Delivering the lecture via google meet	quiz

		metric system (centigrade), converting the measurement of angles from the metric system to the sexagesimal system and vice versa.			
The second	5	<p>Theoretical: graphic scale, numerical scale, representative fraction scale or graphic fraction, written scale (word scale), linear scale, grid scale, comparative scale, time scale.</p> <p>Practical: - Written scale: First - one part on the map is equivalent to one part or parts on the ground Second - Parts on the map are equivalent to one part on the ground. Designing a linear scale and finding the distance from it, Designing a grid scale and finding the distance from it</p>	Surveying	Delivering the lecture via google meet	quiz
the third	5	Theoretical: - direct measurements of distances, estimating	Surveying	Delivering the lecture via google meet	quiz

		distances, sources of measured distances, measurement from maps, measuring wheel method, measurement from nature, direct measurement methods. Practical: Steps method, measuring wheel method			
the fourth	5	Theoretical:- Chain, types, advantages, disadvantages, tape, types, advantages and disadvantages, chain and tape accessories, basic notes on measuring distances, how to measure horizontal distances, measuring horizontal distances on flat land Practical: Measuring short and long distances using a tape measure, in addition to auxiliary tools such as sticks, arrows, wooden pegs and plumb line. How to record field information in tables.	Surveying	Delivering the lecture via google meet	quiz
Fifth	5	Theoretical: Measurement	Surveying	Delivering the	quiz

		of horizontal distances on inclined plots, angle method, gradient method, right triangle method, accuracy and error in measuring distances. Practical: How to measure an angle, measure a slope by the angle method,		lecture via google meet	
Sixth	5	Theoretical: - Columns, machines for setting and dropping parallel columns Practical: Methods of setting up and dropping columns, how parallel lines work	Surveying	Delivering the lecture via google meet	quiz
seventh	5	Delineation of the projections and locations of the beams, the barrier, the measurements of the ground distances across the barriers, the types of barriers Practical :- Barriers that block vision and do not obstruct measurement (low ground), high ground, barriers that obstruct	Surveying	Delivering the lecture via google meet	quiz

		measurement and do not block vision, columns can be circumvented, barriers obstruct measurement and do not block vision and cannot be turned around, right triangle method, a barrier that obstructs measurement and obscures vision columns			
eight	5	Theoretical: - String or tape scanning, String scanning steps, String or tape scanning methods Practical :- straight borders with no obstacle inside the space, straight borders with an obstacle inside the space, non-straight borders with no obstacle inside the space, non-straight borders with an obstacle inside the space	Surveying	Delivering the lecture via google meet	quiz
ninth	5	Theoretical: Flat board, uses, parts and accessories of flat board, general rules for scanning with flat board, advantages and disadvantages of flat board scanning,	Surveying	Delivering the lecture via google meet	quiz

		sources of error when scanning with flat board Practical: Installing the flat plate, methods of scanning using the flat plate, the locking error and how to treat it mathematically and graphically			
tenth	5	Theoretical: Indirect measurement of distances, indirect measuring devices and tools, leveling rulers and their types, theodolite and its parts, tachometers and tachometric methods of measurement, electronic devices, advantages and disadvantages of electronic measurement Practical: the measuring ruler, its use and types	Surveying	Delivering the lecture via google meet	quiz
eleventh	5	Theoretical leveling, important conventions, leveling device, parts of the leveling balance Practical: Using the leveling device, setting up the device, adjusting the device and clarifying the vision	Surveying	Delivering the lecture via google meet	quiz

twelveth	5	Theoretical: The difference between employees of two points, sequential settlement, some conventions of sequential settlement, sources of error in leveling work, contours (curved straightening lines), contour line, contour period Specifications of contour lines Practical :- Calculating levels based on the method of elevation of the line of sight and method of rise and fall and the work of settlement tables	Surveying	Delivering the lecture via google meet	quiz
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12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Principles of Plane and Topographic Surveying by Riyadh S.AL-Khaffaf
Special requirements (include for example workshops, periodicals, IT software, websites)	Principles of Plane and Topographic Surveying by Riyadh S.AL-Khaffaf
Community-based facilities (include for example, guest Lectures , internship , field studies)	Town Planning Reports

13. Admissions

Pre-requisites	
Minimum number of students	15
Maximum number of students	30

