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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology of Iraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

2. Program Mission

Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

3. Program Objectives

The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	90	90		Major decided

College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/second		**Field geology**	**theoretical**	**Practical**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Cognitive Objectives A1- explaining an overview of synthetic geology. A2- The importance of this science in geology. A3- Identifying the geological structures in the field. A4- Identifying geological formations and their distributions in the field.
Skills	
Learning Outcomes 2	B1-After receiving this course, the student will be able to determine the types of geological structures in the field and how to collect data. B2 – The possibility of understanding the distribution of rock detectors and their relationship to the presence of folds and cracks. B3 – The possibility of determining the ancient stress causing the presence of folds and faults for geological distortions.
Learning Outcomes 3	Indicative content includes the following. 1- Presenting the course in a clear and simplified manner, with the help of graphs pictures,videos and illustrations, and presenting them through the Power Point presentation technology. 2- Classroom and laboratory exercises and activities 3- Weekly and quarterly assignments and reports.
Ethics	
Learning Outcomes 4	Learn about analysis of folds classification and faults.
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Lecture delivery method:
2- Student groups (Team Project).

3- Standard method.
4- Practical lectures

10. Evaluation methods

Weekly, monthly, daily and end of semester exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Asst. prof. Dr.	Geology	Structural geology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

Field geology, Abed M. F, 2017 in Arabic

14.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025/second	Geo12017	Field geology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:

Field geology

2. Course Code:

Geo12017

3. Semester / Year:

Second /First course

4. Description Preparation Date:

1/9/2024

5. Available Attendance Forms:

Attendance only

6. Number of Credit Hours (Total) / Number of Units (Total)

60 semester hours. 4 hours weekly

7. Course administrator's name (mention all, if more than one name)

Name: Asst. Prof. Dr. Ayyed H. Ward
Email: aiedwarid@tu.edu.iq

8. Course Objectives

Course Objectives	Explaining an overview of structural geology as an important geology and identifying the geological structures in the field

9. Teaching and Learning Strategies

Strategy	11- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method. 4- Practical lectures.

10. Course Structure

.1

Evaluation method	Learning method	Unit or subject name	Week
2	2	Field geology and its aims.	First
2	2	Requirements of the field and safety.	Second
2	2	How to measure the geological observations.	Third
2	2	Determining the attitudes of the planes by the touching method.	Fourth
2	2	Determining the position of the planes by the bearing method.	Fifth
2	2	Determining the position of the planes by the compass.	Sixth

2	2	Positioning and altimeter systems.	Seventh
2	2	Mid-term Exam 1	Eighth
2	2	Methods of the field investigation.	Ninth
2	2	Tabling of data.	Tenth
2	2	The field notes.	Eleventh
2	2	Geological section drawing.	Twelfth
2	2	Stratigraphic section drawing.	Thirteenth
2	2	Structural section drawing.	Fourteenth
2	2	Mid-term Exam 2	Fifteenth

11.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Field geology, Abed M. F, 2017 in Arabic
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

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Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology of Iraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name: **Sawsin H. Fesal**	**Scientific Associate Name:Firas F. Rija**
Date:	**Date:**

The file is checked by:

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

Date:
Signature:

Approval of the Dean

15.**Program Vision**
The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

16.**Program Mission**
Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

17.**Program Objectives**
The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

18.**Program Accreditation**
No

19.**Other external influences**
No

20.**Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***

Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

21. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/fourth		**Field survey**	**theoretical**	**Practical**

22. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Cognitive Objectives A1- explaining an overview of synthetic geology. A2- The importance of this science in geology. A3- Identifying the geological structures in the field. A4- Identifying geological formations and their distributions in the field.
Skills	
Learning Outcomes 2	B1-After receiving this course, the student will be able to determine the types of geological structures in the field and how to collect data. B2 – The possibility of understanding the distribution of rock detectors and their relationship to the presence of folds and cracks. B3 – The possibility of determining the ancient stress causing the presence of folds and faults for geological distortions.
Learning Outcomes 3	Indicative content includes the following. 1- Presenting the course in a clear and simplified manner, with the help of graphs pictures,videos and illustrations, and presenting them through the Power Point presentation technology. 2- Classroom and laboratory exercises and activities 3- Weekly and quarterly assignments and reports.
Ethics	
Learning Outcomes 4	Learn about analysis of folds classification and faults.
Learning Outcomes 5	Learning Outcomes Statement 5

23.Teaching and Learning Strategies

Lecture delivery method:
2- Student groups (Team Project).

3- Standard method.
4- Practical lectures

24. Evaluation methods

Weekly, monthly, daily and end of semester exams.

25.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Asst. prof. Dr.	Geology	Structural geology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

26.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

27.The most important sources of information about the program

Field geology, Abed M. F, 2017 in Arabic

28.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline																
				Required program Learning outcomes												
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics				
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	
2024-2025/fourth	Geo47142	Field survey	Basic													

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

13.Course Name:
Field survey
14.Course Code:
Geo47142
15.Semester / Year:
Second /First course
16.Description Preparation Date:
1/9/2024
17.Available Attendance Forms:
Attendance only
18.Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
19. Course administrator's name (mention all, if more than one name)
Name: Asst. Prof. Dr. Ayyed H. Ward Email: aiedwarid@tu.edu.iq
20.Course Objectives

Course Objectives	Explaining an overview of structural geology as an important geology and identifying the geological structures in the field

21.Teaching and Learning Strategies

Strategy	11- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method. 4- Practical lectures.

22. Course Structure

.2

Evaluation method	Learning method	Unit or subject name	Week
2	2	Field survey and its aims.	First
2	2	Equipment's of the field survey and safety.	Second
2	2	Maps and previous studies	Third
2	2	Summary about suggested field survey area.	Fourth
2	2	Explaining and interpreting the field outcrops	Fifth
2	2	Map orientation and determine of the location	Sixth
2	2	Field survey for the first section.	Seventh
2	2	Mid-term Exam 1	Eighth

2	2	Field survey for the second section.	Ninth
2	2	Field survey for the third section.	Tenth
2	2	Field survey for the fourth section.	Eleventh
2	2	Field survey for the fifth section.	Twelfth
2	2	Drawing maps of geology, geomorphology and structures.	Thirteenth
2	2	Drawing geological, stratigraphic and structural sections.	Fourteenth
2	2	Mid-term Exam 2	Fifteenth

23.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

24.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Field geology, Abed M. F, 2017 in Arabic
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

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Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied Geology.
Academic or Professional Program Name: Industrial Rocks
Final Certificate Name: Geology
Academic System: First course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name: **Sawsan H. Faisal**	**Scientific Associate Name:** **Sawsan H Faisal**
Date:	**Date:**

The file is checked by:

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

Date:
Signature:

Approval of the Dean

29.**Program Vision**

The College of Science aims to be one of the leading institutions in higher education at Tikrit University through modern teaching, scientific research, and community service, empowering students and faculty to be creative and effective in their fields.

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30.**Program Mission**

To prepare and graduate qualified scientific and leadership competencies in the field of Applied Geology, enrich scientific knowledge, and meet the needs of the local, regional, and international labor market by offering advanced academic content.

31.**Program Objectives**

1. Introduce students to the concept of industrial rocks and minerals.
2. Classify different types of industrial rocks based on origin and usage.
3. Analyze the physical and chemical properties of industrial materials and link them to practical applications.
4. Understand extraction techniques and cost estimation in industrial production.
5. Highlight the role of industrial rocks in supporting national industries and the private sector.

32.**Program Accreditation**

No

33.**Other external influences**

No

34.**Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

35. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/forth		**Industrial Rocks**	**theoretical**	

36. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	1. Introduce students to the concept of industrial rocks and minerals. 2. Classify different types of industrial rocks based on origin and usage. 3. Analyze industrial materials' physical and chemical properties and link them to practical applications. 4. Understand extraction techniques and cost estimation in industrial production. 5. Highlight the role of industrial rocks in supporting national industries and the private sector.
Skills	
Learning Outcomes 2	• Evaluate the suitability of rocks for industrial purposes. • Estimate the reserves of industrial raw materials. • Propose low-cost, environmentally safe production methods.
Learning Outcomes 3	Developing students' ability to share ideas
Ethics	
Learning Outcomes 4	• Evaluate the suitability of rocks for industrial purposes. • Estimate the reserves of industrial raw materials.

	• Propose low-cost, environmentally safe production methods.
Learning Outcomes 5	Learning Outcomes Statement 5

37.**Teaching and Learning Strategies**

Lecture delivery method:

1. Lectures supported by PowerPoint, diagrams, and videos.
2. Group assignments and projects.
3. Field visits to Cement Plants.

38. Evaluation methods

Weekly, monthly, daily, and end-of-semester exams.

39.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of teaching staff	
	General	Special			Staff	Lecturer
Professor Dr.	Geology	Industrial Rocks			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty, such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

40.**Acceptance Criterion**

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

41. **The most important sources of information about the program**

- **Main Textbook:**
  Elements of Petroleum Geology by Richard C. Selley
- **Recommended References:**
  Petroleum Geology: A Concise Study by R.E. Chapman
  Petroleum by V. Sokolov

42. Program Development Plan

Including topics that align with modernity, the requirements of scientific and practical life, and what scientists have reached on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Forth	Geo	Petroleum Geology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

25.Course Name:
Petroleum Geology
26.Course Code:
Geo 425
27.Semester / Year:
Second /First course
28.Description Preparation Date:
14/11/2024
29.Available Attendance Forms:
Attendance only
30.Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
31. Course administrator's name (mention all, if more than one name)
Name: Prof .Dr. Sawsan H Faisal Email: sawsanalhazaa@tu.edu.iq
32.Course Objectives

Course Objectives	• Establish the fundamental principles of petroleum geology. • Understand the geological processes responsible for petroleum generation and accumulation. • Qualify students to analyze reservoir and source rock characteristics. • Identify the types of oil traps and their geological settings. • Relate geological knowledge to Iraq's petroleum industry.

33.Teaching and Learning Strategies

Strategy	- Lecture delivery method. - Student groups (Team Project). - Standard method. - Practical lectures.

34. Course Structure

.3

Evaluation method	Learning method	Unit or subject name	Week
	2	Introduction to Economic Geology – Definition and Scope of Industrial Rocks	First
	2	Classification of Industrial Rocks and	Second

		Minerals	
	2	Environmental impact of mining and extraction	Third
	2	Properties and uses of igneous industrial rocks (granite and basalt)	Fourth
	2	Properties and uses of metamorphic rocks (marble and slate)	Fifth
	2	Industrial use of gravel and sand	Sixth
	2	Midterm exam and initial report discussion	Seventh
	2	Sandstone and glass sand – properties and applications	Eighth
	2	Limestone and dolomite – industrial and construction uses	Ninth
	2	Gypsum and phosphate – extraction and usage	Tenth
	2	Cement manufacturing – raw materials and types	Eleventh
	2	Manufacturing and evaluation of engineering bricks	Twelfth
	2	Discussion of reports and research projects	Thirteenth
	2	Introduction to underground storage as an industrial application	Fourteenth
	2	Final review and final theoretical exam	Fifteenth

35.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

36.Learning and Teaching Resources

Required textbooks (curricular books, if any)	nothing
Main references (sources)	• 2. *Industrial Minerals and Rocks* – Kogel et al., 2006 3. *An Introduction to Economic Geology and its Environmental Impact* – Evans, 2005
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	no

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Underground Storage
Final Certificate Name: Geology
Academic System: 4th year\ Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name: **Sawsan H Faisal**	**Scientific Associate Name:** **Sawsan H Faisal**
Date:	**Date:**

The file is checked by:

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

Date:
Signature:

Approval of the Dean

43.**Program Vision**
The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

44.**Program Mission**
Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

45.**Program Objectives**
1. Introduce students to the fundamental concept and strategic importance of underground storage. 2. Clarify the geological and physical requirements for effective storage systems. 3. Explore different types of underground storage and their applications in Iraq and worldwide. 4. Analyze the engineering and environmental challenges associated with subsurface storage. 5. Provide practical examples of storing various materials (water, gas, oil, and waste).

46.**Program Accreditation**
No

47.**Other external influences**
No

48.**Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

49. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/4th\2nd coarse		**Underground Storage**	**theoretical**	

50. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	1 • Understand the types and purposes of underground storage. • Identify suitable geological formations for storage applications. • Distinguish between different storage techniques and their geographical applicability.
Skills	
Learning Outcomes 2	• Analyze geological characteristics for site suitability assessment. • Diagnose and propose solutions for engineering and leakage issues. • Develop reports based on geological storage evaluations.
Learning Outcomes 3	Developing students' ability to share ideas
Ethics	
Learning Outcomes 4	• Promote sustainable resource management through safe storage practices. • Encourage environmental responsibility in subsurface

	projects. • Support optimal utilization of subsurface spaces.
Learning Outcomes 5	Learning Outcomes Statement 5

51.**Teaching and Learning Strategies**

Lecture delivery method:
2- Student groups (Team Project).
3- Standard method.

52. Evaluation methods

Weekly, monthly, daily and end of semester exams.

53.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor Dr.	Geology	Sedimentary Rocks			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

54.**Acceptance Criterion**

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

55.**The most important sources of information about the program**

-
    1. *Underground Storage of Fluids* – B. Bérest & P. Bergues
    2. *Geological Storage Systems (CO_2, Waste)* – IPCC Technical Reports
- **Supplementary Materials**:
    1. Research articles from the petroleum and water ministries
    2. Case studies from international storage projects

56.Program Development Plan

Including topics that align with modernity, the requirements of scientific and practical life, and what scientists have reached on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/4th	Geo	Underground Storage	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

37.Course Name:
Micropaleontology
38.Course Code:
Geo
39.Semester / Year:
Second /4th year
40.Description Preparation Date:
14/11/2024
41.Available Attendance Forms:
Attendance only
42.Number of Credit Hours (Total) / Number of Units (Total)
30 semester hours. 2 hours weekly
43. Course administrator's name (mention all, if more than one name)
Name: Prof.Dr. Sawsan H Faisal Email: sawsanalhazaa@tu.edu.iq
44.Course Objectives

Course Objectives	1. .Introduce students to the fundamental concept and strategic importance of underground storage. 2. Clarify the geological and physical requirements for effective storage systems. 3. Explore different types of underground storage and their applications in Iraq and worldwide. 4. Analyze the engineering and environmental challenges associated with subsurface storage. 5. Provide practical examples of storing various materials (water, gas, oil, and waste).

45.Teaching and Learning Strategies

Strategy	1- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method.

46. Course Structure

.4

Evaluation method	Learning method	Unit or subject name	Week

	2	Types of underground storage: water, gas, oil, hazardous waste	First
	2	Physical characteristics and suitable rock types	Second
	2	Storage in carbonate and sandstone formations	Third
	2	Storage in salt formations and natural caverns	Fourth
	2	Criteria and requirements for site selection	Fifth
	2	Midterm exam	Sixth
	2	Leakage problems and material loss	Seventh
	2	Environmental impacts of underground storage	Eighth
	2	Modern techniques for controlling storage risks	Ninth
	2	Emergency and drinking water storage	Tenth
	2	Underground storage of gas and oil	Eleventh
	2	Subsurface disposal of radioactive and chemical waste	Twelfth
	2	Global and local case studies: successful and failed examples	Thirteenth
	2	Final review and final exam	Fourteenth
	2	Types of underground storage: water, gas, oil, hazardous waste	Fifteenth

47.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

48.Learning and Teaching Resources

Required textbooks (curricular books, if any)	nothing
Main references (sources)	1
Recommended books and references (scientific journals, reports...)	○ Research articles from petroleum and water ministries ○ Case studies from international storage projects
Electronic References, Websites	

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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Petroleum Geology
Final Certificate Name: Geology
Academic System: First course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name: **Sawsan H. Faisal**	**Scientific Associate Name:** **Sawsan H Faisal**
Date:	**Date:**

The file is checked by:

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

Date:
Signature:

Approval of the Dean

57.**Program Vision**

The College of Science aims to be one of the leading institutions in higher education at Tikrit University through modern teaching, scientific research, and community service, empowering students and faculty to be creative and effective in their fields.

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58.**Program Mission**

To prepare and graduate qualified scientific and leadership competencies in the field of Applied Geology, enrich scientific knowledge, and meet the needs of the local, regional, and international labor market by offering advanced academic content.

59.**Program Objectives**

- Establish the fundamental principles of petroleum geology.
- Understand the geological processes responsible for petroleum generation and accumulation.
- Qualify students to analyze reservoir and source rock characteristics.
- Identify the types of oil traps and their geological settings.
- Relate geological knowledge to Iraq's petroleum industry.

60.**Program Accreditation**

No

61.**Other external influences**

No

62.**Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

63. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/forth		**Petroleum Geology**	**theoretical**	**Practical**

64. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	1. Understand petroleum origin, generation, maturation, migration, and trapping. 2. Identify geological characteristics of the reservoir and source rocks. 3. Evaluate petroleum traps and oil field structures. 4. Recognize the significance of oil fields in Iraq's economy.
Skills	
Learning Outcomes 2	1. 1 Analyze subsurface geological maps and structures. 2. Evaluate reservoir sedimentary environments. 3. Calculate oil reserves using standard methods. 4. Distinguish migration types and evidence of hydrocarbons.
Learning Outcomes 3	Developing students' ability to share ideas
Ethics	
Learning Outcomes 4	• Develop critical thinking and analytical reasoning. • Promote collaboration and team-based problem solving. • Emphasize scientific integrity and environmental awareness.

Learning Outcomes 5	Learning Outcomes Statement 5

65.Teaching and Learning Strategies

Lecture delivery method:

4. Lectures supported by PowerPoint, diagrams, and videos.
5. Group assignments and projects.
6. Practical lab exercises with maps and models.
7. Field visits to oil-related locations and institutions.

66. Evaluation methods

Weekly, monthly, daily, and end-of-semester exams.

67.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of teaching staff	
	General	Special			Staff	Lecturer
Professor Dr.	Geology	Petroleum Geology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty, such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

68.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

69.The most important sources of information about the program

- **Main Textbook:**
  Elements of Petroleum Geology by Richard C. Selley
- **Recommended References:**
  Petroleum Geology: A Concise Study by R.E. Chapman
  Petroleum by V. Sokolov

70.Program Development Plan

Including topics that align with modernity, the requirements of scientific and practical life, and what scientists have reached on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Forth	Geo	Petroleum Geology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

49.Course Name:
Petroleum Geology
50.Course Code:
Geo
51.Semester / Year:
Second /First course
52.Description Preparation Date:
14/11/2024
53.Available Attendance Forms:
Attendance only
54.Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
55. Course administrator's name (mention all, if more than one name)
Name: Prof .Dr. Sawsan H Faisal Email: sawsanalhazaa@tu.edu.iq
56.Course Objectives

Course Objectives	• Establish the fundamental principles of petroleum geology. • Understand the geological processes responsible for petroleum generation and accumulation. • Qualify students to analyze reservoir and source rock characteristics. • Identify the types of oil traps and their geological settings. • Relate geological knowledge to Iraq's petroleum industry.

57.Teaching and Learning Strategies

Strategy	- Lecture delivery method. - Student groups (Team Project). - Standard method. - Practical lectures.

58. Course Structure

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Evaluation method	Learning method	Unit or subject name	Week
2	2	Introduction to petroleum geology and origin theories	First
2	2	2 Maturation of organic matter	Second

2	2	3 Reservoir water characteristics	Third
2	2	4 Reservoir content (oil and gas)	Fourth
2	2	5 Physical and chemical properties of crude oil	Fifth
2	2	6 Reservoir rock characteristics	Sixth
2	2	7 Midterm exam	Seventh
2	2	8 Source rocks	Eighth
2	2	9 Types and evidence of oil migration	Ninth
2	2	10 Causes of migration	Tenth
2	2	11 Reservoir evaluation	Eleventh
2	2	12 Oil traps	Twelfth
2	2	13 Oil fields of southern Iraq	Thirteenth
2	2	14 Oil fields of central Iraq	Fourteenth
2	2	15 Oil fields of northern Iraq	Fifteenth

59.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

60.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Petroleum Geology Book in Arabic
Main references (sources)	• **n Textbook:** *Elements of Petroleum Geology* by Richard C. Selley • **Recommended References:** *Petroleum Geology: A Concise Study* by R.E. Chapman *Petroleum* by V. Sokolov
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology of Iraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name: **Sawsin H. Fesal**	**Scientific Associate Name:Firas F. Rija**
Date:	**Date:**

The file is checked by:

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

Date:
Signature:

Approval of the Dean

71.**Program Vision**
The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

72.**Program Mission**
Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

73.**Program Objectives**
The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

74.**Program Accreditation**
No

75.**Other external influences**
No

76.**Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***

Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

77. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/second	**Geo24119**	**plate tectonic**	**theoretical**	**Practical**

78. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Cognitive Objectives A1- explaining an overview of synthetic geology. A2- The importance of this science in geology. A3- Identifying the plate of earth
Skills	
Learning Outcomes 2	B1-After receiving this course, the student will be able to determine the types of geological structures in the field and how to collect data. B2 – The possibility of understanding the distribution of rock detectors and their relationship to the presence of folds and cracks. B3 – The possibility of determining the ancient stress causing the presence of folds and faults for geological distortions.
Learning Outcomes 3	Indicative content includes the following. 1- Presenting the course in a clear and simplified manner, with the help of graphs pictures,videos and illustrations, and presenting them through the Power Point presentation technology. 2- Classroom and laboratory exercises and activities 3- Weekly and quarterly assignments and reports.
Ethics	
Learning Outcomes 4	Learn about analysis of folds classification and faults.
Learning Outcomes 5	Learning Outcomes Statement 5

79.Teaching and Learning Strategies

Lecture delivery method:
2- Student groups (Team Project).
3- Standard method.

4- Practical lectures

80. Evaluation methods

Weekly, monthly, daily and end of semester exams.

81.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Asst. prof. Dr.	Geology	Structural geology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

82.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

83.The most important sources of information about the program

Husein and abood, 2023 Plate tectonic in Arabic

84.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025/second	Geo24119	plate tectonic	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

61.Course Name:
Plate tectonic
62.Course Code:
Geo24119
63.Semester / Year:
Second /Second course
64.Description Preparation Date:
14/11/2024
65.Available Attendance Forms:
Attendance only
66.Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
67. Course administrator's name (mention all, if more than one name)
Name: Asst. Prof. Dr. Ayyed H. Ward Email: aiedwarid@tu.edu.iq
68.Course Objectives

Course Objectives	Explaining an overview of structural geology as an important geology and identifying the geological structures in the field

69.Teaching and Learning Strategies	
Strategy	11- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method. 4- Practical lectures.

70. Course Structure

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Evaluation method	Learning method	Unit or subject name	Week
2	2	Introduction to earth structures	First
2	2	Waves and their behavior in earth	Second
2	2	Origin of the Earth	Third
2	2	Continental Drift Theory and its indications	Fourth
2	2	Sea Floor Spreading Theory and its indications	Fifth
2	2	Earth's Magnetic Field	Sixth
2	2	Origin of cotenants	Seventh
2	2	Mid-term Exam 1	Eighth

2	2	Triple Junctions	Ninth
2	2	Mid Ocean Ridge	Tenth
2	2	Continental margins	Eleventh
2	2	Divergent boundaries	Twelfth
2	2	Convergent boundaries	Thirteenth
2	2	Transform boundaries	Fourteenth
2	2	Mid-term Exam 2	Fifteenth

71.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

72.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Husein and abood, 2023 Plate tectonic in Arabic
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

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

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2024

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University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology of Iraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name: **Sawsin H. Fesal**	**Scientific Associate Name:Firas F. Rija**
Date:	**Date:**

The file is checked by:

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

Date:
Signature:

Approval of the Dean

85.**Program Vision**
The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

86.**Program Mission**
Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

87.**Program Objectives**
The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

88.**Program Accreditation**
No

89.**Other external influences**
No

90.**Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***

Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

91. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/third	**Geo36136**	**Structural analysis**	**theoretical**	**Practical**

92. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Cognitive Objectives A1- explaining an overview of synthetic geology. A2- The importance of this science in geology. A3- Identifying the geological structures in the field. A4- Identifying geological formations and their distributions in the field.
Skills	
Learning Outcomes 2	B1-After receiving this course, the student will be able to determine the types of geological structures in the field and how to collect data. B2 – The possibility of understanding the distribution of rock detectors and their relationship to the presence of folds and cracks. B3 – The possibility of determining the ancient stress causing the presence of folds and faults for geological distortions.
Learning Outcomes 3	Indicative content includes the following. 1- Presenting the course in a clear and simplified manner, with the help of graphs pictures,videos and illustrations, and presenting them through the Power Point presentation technology. 2- Classroom and laboratory exercises and activities 3- Weekly and quarterly assignments and reports.
Ethics	
Learning Outcomes 4	Learn about analysis of folds classification and faults.
Learning Outcomes 5	Learning Outcomes Statement 5

93.Teaching and Learning Strategies

Lecture delivery method:
2- Student groups (Team Project).

3- Standard method.
4- Practical lectures

94. Evaluation methods

Weekly, monthly, daily and end of semester exams.

95.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Asst. prof. Dr.	Geology	Structural geology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

96.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

97.The most important sources of information about the program

Structural Geology, Qazi, 2009 in Arabic
2- Structural Geology, Groshong, 2006

98.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025/third	Geo36136	Structural analysis	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

73.Course Name:
Structural analysis
74.Course Code:
Geo36136
75.Semester / Year:
Second /Second course
76.Description Preparation Date:
14/11/2024
77.Available Attendance Forms:
Attendance only
78.Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
79. Course administrator's name (mention all, if more than one name)
Name: Asst. Prof. Dr. Ayyed H. Ward Email: aiedwarid@tu.edu.iq
80.Course Objectives

Course Objectives	Explaining an overview of structural geology as an important geology and identifying the geological structures in the field

81.Teaching and Learning Strategies

Strategy	11- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method. 4- Practical lectures.

82. Course Structure

.7

Evaluation method	Learning method	Unit or subject name	Week
2	2	Introduction to structural geology and structural analysis	First
2	2	Force and stress in rocks	Second
2	2	Strain and rock deformation.	Third
2	2	Folds and fold analysis	Fourth
2	2	Fold classification	Fifth
2	2	Folding mechanism	Sixth
2	2	Thickness measurement of beds	Seventh
2	2	Mid-term Exam 1	Eighth

2	2	Fractures and their classification by using stereographic projection	Ninth
2	2	Fold analysis by using stereographic projection	Tenth
2	2	Faults and their types	Eleventh
2	2	Structures associated with faults	Twelfth
2	2	Diaper structures	Thirteenth
2	2	Igneous structures	Fourteenth
2	2	Mid-term Exam 2	Fifteenth

83.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

84.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Structural Geology, Gazi, 2009 in Arabic
Main references (sources)	Structural Geology, Groshong, 2006
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

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

Academic Program and Course Description Guide

2024

Introduction:

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology ofIraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name: **Sawsin H. Fesal**	**Scientific Associate Name:Firas F. Rija**
Date:	**Date:**

The file is checked by:

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

Date:
Signature:

Approval of the Dean

99.**Program Vision**
The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

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101. **Program Objectives**
The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

102. **Program Accreditation**
No

103. **Other external influences**
No

104. **Program Structure**

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*

Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

105. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2024-2025/second	**Geo23016**	**Structural geology**	**theoretical**	**Practical**

106. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Cognitive Objectives A1- explaining an overview of synthetic geology. A2- The importance of this science in geology. A3- Identifying the geological structures in the field. A4- Identifying geological formations and their distributions in the field.
Skills	
Learning Outcomes 2	B1-After receiving this course, the student will be able to determine the types of geological structures in the field and how to collect data. B2 – The possibility of understanding the distribution of rock detectors and their relationship to the presence of folds and cracks. B3 – The possibility of determining the ancient stress causing the presence of folds and faults for geological distortions.
Learning Outcomes 3	Indicative content includes the following. 1- Presenting the course in a clear and simplified manner, with the help of graphs pictures,videos and illustrations, and presenting them through the Power Point presentation technology. 2- Classroom and laboratory exercises and activities 3- Weekly and quarterly assignments and reports.
Ethics	
Learning Outcomes 4	Learn about folds classification and faults.
Learning Outcomes 5	Learning Outcomes Statement 5

107. Teaching and Learning Strategies

Lecture delivery method:
2- Student groups (Team Project).

3- Standard method.
4- Practical lectures

108. Evaluation methods

Weekly, monthly, daily and end of semester exams.

109. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Asst. prof. Dr.	Geology	Structural geology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

110. Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

111. The most important sources of information about the program

Structural Geology, Qazi, 2009 in Arabic
2- Structural Geology, Fossen, 2012

112. Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025/Second	Geo23016	Structural geology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

85.Course Name:
Structural geology
86.Course Code:
Geo23016
87.Semester / Year:
Second /Second course
88.Description Preparation Date:
14/11/2024
89.Available Attendance Forms:
Attendance only
90.Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
91. Course administrator's name (mention all, if more than one name)
Name: Asst. Prof. Dr. Ayyed H. Ward Email: aiedwarid@tu.edu.iq
92.Course Objectives

Course Objectives	Explaining an overview of structural geology as an important geology and identifying the geological structures in the field

93.Teaching and Learning Strategies	
Strategy	11- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method. 4- Practical lectures.

94. Course Structure

.8

Evaluation method	Learning method	Unit or subject name	Week
2	2	Structural geology, Defined it and their divisions.	First
2	2	Folds and their elements.	Second
2	2	Geometrical classification of folds.	Third
2	2	The relationship between folds and plate tectonic.	Fourth
2	2	Genetic analysis of folds	Fifth
2	2	Folding mechanism	Sixth
2	2	Fractures	Seventh
2	2	Mid-term Exam 1	Eighth

2	2	Faults and faulting.	Ninth
2	2	The relationship between faults and folds.	Tenth
2	2	Paleo-stress	Eleventh
2	2	Unconformities	Twelfth
2	2	Diaper structures	Thirteenth
2	2	Igneous structures	Fourteenth
2	2	Mid-term Exam 2	Fifteenth

95.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

96.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Structural Geology, Gazi, 2009 in Arabic
Main references (sources)	Structural Geology, Fossen, 2012
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
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2024

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

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

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

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

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must

determine the learning outcomes of each course in a way that achieves the objectives of the program.

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

Academic Program Description Form

University Name: .....Tikrit.....
Faculty/Institute: .....Science.....
Scientific Department: .....Geology.....
Academic or Professional Program Name: .B.Sc. ..Geology.....
Final Certificate Name: .... B.Sc. ..Geology.....
Academic System: …**Semesters**……
Description Preparation Date: 5/10/2024
File Completion Date: 0/1112021/

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Dr. Faris Nejris Hassan	**Dr. Firas Faris Rajaa**
Date: 14/10/2024	**Date: 14/10/2024**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

113. **Program Vision**
This academic program description provides a concise summary of the program's key features and the learning outcomes expected of the student, demonstrating whether the student has made the most of the opportunities available. It is

accompanied by a description of each course within the program.

114. Program Mission

To prepare and graduate pioneering scientific and leadership competencies in geology and its sciences, and to develop the knowledge base in the field of scientific research to serve the local, regional, and international communities. Furthermore, to train and refine students' minds scientifically and intellectually, to emphasize social and cultural values, and to respond to local market requirements. Furthermore, to train students in investing in the Earth's resources and wealth, and employing them to develop the country's economy and advance its economic and investment landscape.

115. Program Objectives

Providing an overview of these two methods and their important role in geological surveying operations in general, as well as their use in various exploration operations.

116. Program Accreditation

Does the program have program accreditation? And from which agency?
Nothing.

117. Other external influences

Is there a sponsor for the program?
Nothing.

118. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	**52**	**3.5**		**Basic course**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**nothing**			
Other				

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

119. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/ Fourth	**Geo48146**	**Potential and Magnetic Methods**	**theoretical**	**practical**
			2	**3**

120. Expected learning outcomes of the program	
Knowledge	
A- Knowledge and Understanding: After studying this course, students will be able to identify the gravitational properties of geological formations, understand how they occur, and use gravitational methods to explore geological formations, including their composition and determining their depth and dimensions. Magnetic methods are used in geological surveys. They help determine the dimensions of aquifers, determine the quality of groundwater, evaluate reservoir properties, and identify weak areas in the soil. B- Subject-Specific Skills: Developing students' analytical and applied skills, enhancing their deductive reasoning, and improving their ability to work with laboratory equipment are important objectives.	Learning Outcomes Statement 1
Skills	
1- Thinking Skill According to the Student's Ability The goal of this skill is for the student to believe in concrete matters (the student's abilities), understand when, what, and how to think, and work to improve their ability to think rationally. 2- Higher Thinking Skill (The goal of this skill is to teach students to think carefully before making decisions that will shape their lives) 3- Critical Thinking Strategy in	Learning Outcomes Statement 2

Learning (A term that refers to the highest levels of thinking, which aims to pose a problem and then analyze it logically to arrive at the desired solution).	
Ethics	
Developing students' ability to share ideas	Learning Outcomes Statement 4

121. Teaching and Learning Strategies

Teaching and Learning Methods:

Lectures are delivered in a practical, real-world manner, engaging students in the course material without deviating from the core subject matter. The goal is to ensure that the material is presented within a practical application framework. In addition, students are assigned individual and group activities and assignments. Modern presentation tools, supported by graphics and illustrations, will be used.

Assessment Methods:

1- Participation Assessment: Assessing the extent of the student's participation in class discussions and their response to questions and challenges.

2- Contribution Assessment: Assessing the student's contribution to lectures and discussions by offering new ideas, providing relevant examples and experiences, and sharing additional readings or resources.

3- Creativity Assessment: Assessing the student's ability to creatively apply the concepts presented in the course and provide innovative solutions to challenges.

4- Collaboration Assessment: Assessing the student's collaboration with classmates in group work and their contribution to achieving the objectives of joint projects.

5. A variety of tools can be used to assess participation, such as participation reports, class discussion assessments, lecturer notes, and evaluations of group projects and activities. Assessment criteria should be made clear to students from the outset, and constructive feedback should be provided to promote continuous improvement.

6. Allocating a percentage of the grade to assignments, daily tests, monthly and final exams is a guide to assessing commitment and academic achievement.

122. Evaluation methods

Weekly, monthly, daily and final exams.

123. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Doctor	Geology	Geophysics			Staff	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

124. Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)
Central Admission

125. The most important sources of information about the program

Principle of geophysical methods in geological exploration.

Applied Geophysics.

126. Program Development Plan

20% annually

Continuous inclusion of topics that are in line with modernity, the requirements of scientific and practical life, and the findings of scientists.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025	Geo48146	Potential and Magnetic Methods	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

97. Course Name:	
Potential and Magnetic Methods	
98. Course Code:	
Geo48146	
99. Semester / Year:	
Semester	
100. Description Preparation Date:	
5/ 10/ 2024	
101. Available Attendance Forms:	
In-person only	
102. Number of Credit Hours (Total) / Number of Units (Total)	
125 semester hours. 2 hours per week of theory, 3 hours of practical work, and 50 h	
103. Course administrator's name (mention all, if more than one name)	
Name: Dr. Riyadh Muhawish Rashid Alazzawi Email: riyadhalazzawi@tu.edu.iq.	
104. Course Objectives	
Course Objectives	**Providing an overview of these two methods and their important role i**
105. Teaching and Learning Strategies	
Strategy	Teaching and Learning Methods: Lectures are delivered in a practical, real-world manner, engaging stude students are assigned individual and group activities and assignments. M Assessment Methods: 1- Participation Assessment: Assessing the extent of the student's partici 2- Contribution Assessment: Assessing the student's contribution to lectu 3- Creativity Assessment: Assessing the student's ability to creatively app 4- Collaboration Assessment: Assessing the student's collaboration with 5. A variety of tools can be used to assess participation, such as particip constructive feedback should be provided to promote continuous improv 6. Allocating a percentage of the grade to assignments, daily tests, month

106. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name
1	2+3	roviding stude	Introduction to the Gravitational Method and the Role of Scientists in its Development and History
2	2+3	ith the skill of	Gravitational Force and Attraction
3	2+3	nalyzing and	The Universal Law of Gravitation and its Assumptions
4	2+3	nterpreting gra	Changes in the Values of Gravity
5	2+3	nd magnetic d	Gravity Measurements and Their Types
6	2+3	n explorations.	Devices for Gravity Measurement
7	2+3		Field Procedures in Gravity Measurement
8	2+3		Local Anomaly, Regional Anomaly, Interpretation of Gravity Anomalies, and Correction of Gravit
9	2+3		Introduction to the Magnetic Method and Its Applications
10	2+3		Principles and Basic Concepts of the Magnetic Method
11	2+3		Sources of Magnetic Force and Their Devices
12	2+3		Magnetic Variations with Time and Their Corrections
13	2+3		Interpretation of Magnetic Anomalies
14	2+3		Calculation of Depth and Dimensions to the Metallic Body
15	2+3		Types of Interpretations

Distribution as follows: 35 marks for monthly and daily semester exams. 15 marks for practical exams an

108. Learning and Teaching Resources

Required textbooks (curric books, if any)	1- Principle of geophysical methods in geological exploration
Main references (sources)	2- Applied Geophysics
Recommended books and references (scientific journals, reports...)	
Electronic References, Websit	https://alamrigeo.com/input/docs/books/%D8%A7%D9%849%8A%D8%A9.pdf

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

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2024

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University Name: .....Tikrit.....
Faculty/Institute: .....Science.....
Scientific Department: .....Geology.....
Academic or Professional Program Name: .B.Sc. ..Geology.....
Final Certificate Name: .... B.Sc. ..Geology.....
Academic System: …**Semesters**……
Description Preparation Date: 5/10/2024
File Completion Date: 0/1112021/

Signature:
Head of Department Name:
Dr. Faris Nejris Hassan
Date: 14/10/2024

Signature:
Scientific Associate Name:
Dr. Firas Faris Rajaa
Date: 14/10/2024

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. **Program Vision**
This academic program description provides a concise summary of the program's key features and the learning outcomes expected of the student, demonstrating whether the student has made the most of the opportunities available. It is

accompanied by a description of each course within the program.

2. Program Mission

To prepare and graduate pioneering scientific and leadership competencies in geology and its sciences, and to develop the knowledge base in the field of scientific research to serve the local, regional, and international communities. Furthermore, to train and refine students' minds scientifically and intellectually, to emphasize social and cultural values, and to respond to local market requirements. Furthermore, to train students in investing in the Earth's resources and wealth, and employing them to develop the country's economy and advance its economic and investment landscape.

3. Program Objectives

Providing an overview of these two methods and their important role in geological surveying operations in general, as well as their use in various exploration operations.

4. Program Accreditation

Does the program have program accreditation? And from which agency?
Nothing.

5. Other external influences

Is there a sponsor for the program?
Nothing.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	**52**	**3.5**		**Basic course**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**nothing**			
Other				

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

7. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/ Third	**Geo12017**	**Field geology**	**theoretical**	**practical**
			2	**3**

8. Expected learning outcomes of the program	
Knowledge	
1. An overview of field geology. 2. The importance of this science in geology. 3. Identify field data collection methods. 4. Identify methods for selecting appropriate field data collection stations.	Learning Outcomes Statement 1
Skills	
1- Thinking Skill According to the Student's Ability The goal of this skill is for the student to believe in concrete matters (the student's abilities), understand when, what, and how to think, and work to improve their ability to think rationally. 2- Higher Thinking Skill (The goal of this skill is to teach students to think carefully before making decisions that will shape their lives) 3- Critical Thinking Strategy in Learning (A term that refers to the highest levels of thinking, which aims to pose a problem and then analyze it logically to arrive at the desired solution).	Learning Outcomes Statement 2
Ethics	
Developing students' ability to share ideas	Learning Outcomes Statement 4

9. Teaching and Learning Strategies

Teaching and Learning Methods:

Lectures are delivered in a practical, real-world manner, engaging students in the course material without deviating from the core subject matter. The goal is to ensure that the material is presented within a practical application framework. In

addition, students are assigned individual and group activities and assignments. Modern presentation tools, supported by graphics and illustrations, will be used.

Assessment Methods:

1- Participation Assessment: Assessing the extent of the student's participation in class discussions and their response to questions and challenges.

2- Contribution Assessment: Assessing the student's contribution to lectures and discussions by offering new ideas, providing relevant examples and experiences, and sharing additional readings or resources.

3- Creativity Assessment: Assessing the student's ability to creatively apply the concepts presented in the course and provide innovative solutions to challenges.

4- Collaboration Assessment: Assessing the student's collaboration with classmates in group work and their contribution to achieving the objectives of joint projects.

5. A variety of tools can be used to assess participation, such as participation reports, class discussion assessments, lecturer notes, and evaluations of group projects and activities. Assessment criteria should be made clear to students from the outset, and constructive feedback should be provided to promote continuous improvement.

6. Allocating a percentage of the grade to assignments, daily tests, monthly and final exams is a guide to assessing commitment and academic achievement.

10. Evaluation methods

Weekly, monthly, daily and final exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Doctor	Geology	Geophysics			Staff	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.
Professional development of faculty members
Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.**Acceptance Criterion**

(Setting regulations related to enrollment in the college or institute, whether central admission or others)
Central Admission

13.**The most important sources of information about the program**

Principle of Field Geology.

Geological Field Techniques – Angela L. Coe et al.
Geological Field Methods – J. S. Craig & D. J. Vaughan.

14.Program Development Plan

20% annually

Continuous inclusion of topics that are in line with modernity, the requirements of scientific and practical life, and the findings of scientists.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025	Geo12017	Field geology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:	
Field geology	
2. Course Code:	
Geo12017	
3. Semester / Year:	
Semester	
4. Description Preparation Date:	
5/ 10/ 2024	
5. Available Attendance Forms:	
In-person only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
125 semester hours. 2 hours per week of theory, 3 hours of practical work, a 50 hours of online study.	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Riyadh Muhawish Rashid Alazzawi Email: riyadhalazzawi@tu.edu.iq.	
8. Course Objectives	
Course Objectives	**Explain an overview of field geology as an important branch of geology and outline how field data are collected.**
9. Teaching and Learning Strategies	
Strategy	Teaching and Learning Methods: Lectures are delivered in a practical, real-world manner, engagi students in the course material without deviating from the co subject matter. The goal is to ensure that the material is present within a practical application framework. In addition, students a assigned individual and group activities and assignments. Mode presentation tools, supported by graphics and illustrations, will used. Assessment Methods: 1- Participation Assessment: Assessing the extent of the studen participation in class discussions and their response to questio and challenges. 2- Contribution Assessment: Assessing the student's contribution

	lectures and discussions by offering new ideas, providing releva examples and experiences, and sharing additional readings resources. 3- Creativity Assessment: Assessing the student's ability to creativ apply the concepts presented in the course and provide innovat solutions to challenges. 4- Collaboration Assessment: Assessing the student's collaborati with classmates in group work and their contribution to achievi the objectives of joint projects. 5. A variety of tools can be used to assess participation, such participation reports, class discussion assessments, lecturer not and evaluations of group projects and activities. Assessment crite should be made clear to students from the outset, and construct feedback should be provided to promote continuous improvement 6. Allocating a percentage of the grade to assignments, daily tes monthly and final exams is a guide to assessing commitment a academic achievement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2+3	roviding stud	Field geology and its aims.	Explaining scien material using mod teaching techniq clarifying it thro equations, sol problems on the bo and using surve equipment.	Weekly, monthly, daily, writ and end-of-year exams.
2	2+3	th the skills t nalyze and nterpret eological data nd phenomen	Requirements of the field a safety.		
3	2+3		How to measure the geological observations.		
4	2+3		Determining the attitudes of the planes by the touching method.		
5	2+3		Determining the position of the planes by the bearing method.		
6	2+3		Determining the position of the planes by the compass.		
7	2+3		Mid-term Exam		
8	2+3		Positioning and altimeter system		
9	2+3		Methods of the field investigatio		
10	2+3		Tabling of data.		
11	2+3		The field notes.		
12	2+3		Field sample collection methods		
13	2+3		Geological section drawing.		
14	2+3		Strati graphical section drawing.		

15	2+3		Structural section drawing.		

11.Course Evaluation

Distribution as follows: 35 marks for monthly and daily semester exams. 15 marks for practical exams and reports. 50 marks for final exams.

12.Learning and Teaching Resources

Required textbooks (curric books, if any)	Principle of Field Geology.
Main references (sources)	**Geological Field Techniques** – Angela L. Coe et al.
Recommended books and references (scientific journals, reports...)	***Geological Field Methods*** – J. S. Craig & D. J. Vaughan.
Electronic References, Websites	**https://www.scribd.com/document/254091610/%D9%85%D9%84%D8%AE%D8%B5-%D8%AC%D9%8A%D9%88%D9%84%D9%88%D8%AC%D9%8A%D8%A7-%D8%A7%D9%84%D8%AD%D9%82%D9%84** **https://uot.edu.ly/moduledescription.php?lang=ar&module=GE400&program=121**

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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must

determine the learning outcomes of each course in a way that achieves the objectives of the program.

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

Academic Program Description Form

University Name: .....Tikrit.....
Faculty/Institute: .....Science.....
Scientific Department: .....Geology.....
Academic or Professional Program Name: .B.Sc. ..Geology.....
Final Certificate Name: .... B.Sc. ..Geology.....
Academic System: …**Semesters**……
Description Preparation Date: 5/10/2024
File Completion Date: 0/111**2021/**

Signature:
Head of Department Name:
Dr. Faris Nejris Hassan
Date: 14/10/2024

Signature:
Scientific Associate Name:
Dr. Firas Faris Rajaa
Date: 14/10/2024

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. **Program Vision**
This academic program description provides a concise summary of the program's key features and the learning outcomes expected of the student, demonstrating whether the student has made the most of the opportunities available. It is

accompanied by a description of each course within the program.

2. Program Mission

To prepare and graduate pioneering scientific and leadership competencies in geology and its sciences, and to develop the knowledge base in the field of scientific research to serve the local, regional, and international communities. Furthermore, to train and refine students' minds scientifically and intellectually, to emphasize social and cultural values, and to respond to local market requirements. Furthermore, to train students in investing in the Earth's resources and wealth, and employing them to develop the country's economy and advance its economic and investment landscape.

3. Program Objectives

Providing an overview of these two methods and their important role in geological surveying operations in general, as well as their use in various exploration operations.

4. Program Accreditation

Does the program have program accreditation? And from which agency?
Nothing.

5. Other external influences

Is there a sponsor for the program?
Nothing.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	**52**	**3.5**		**Basic course**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**nothing**			
Other				

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

7. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/ third	Geo35125	**Seismic and electrical**	**theoretical**	**practical**
			2	**3**

8. Expected learning outcomes of the program	
Knowledge	
A- Knowledge and Understanding: After studying this course, students will be able to identify the types of seismic waves, understand how they occur, and use seismic methods to explore geological structures, including their composition and determining their depth and dimensions. The electrical method is used for shallow depths, particularly in hydrogeological surveys. It helps determine the dimensions of aquifers, determine groundwater quality, evaluate reservoir properties, and identify weak areas in the soil. B- Subject-Specific Skills: Developing students' analytical and applied skills, enhancing their deductive reasoning, and improving their ability to work with laboratory equipment are important goals.	Learning Outcomes Statement 1
Skills	
1- Thinking Skill According to the Student's Ability The goal of this skill is for the student to believe in concrete matters (the student's abilities), understand when, what, and how to think, and work to improve their ability to think rationally. 2- Higher Thinking Skill (The goal of this skill is to teach students to think carefully before making decisions that will shape their lives) 3- Critical Thinking Strategy in Learning (A term that refers to	Learning Outcomes Statement 2

the highest levels of thinking, which aims to pose a problem and then analyze it logically to arrive at the desired solution).	
Ethics	
Developing students' ability to share ideas	Learning Outcomes Statement 4

9. Teaching and Learning Strategies

Teaching and Learning Methods:

Lectures are delivered in a practical, real-world manner, engaging students in the course material without deviating from the core subject matter. The goal is to ensure that the material is presented within a practical application framework. In addition, students are assigned individual and group activities and assignments. Modern presentation tools, supported by graphics and illustrations, will be used.

Assessment Methods:

1- Participation Assessment: Assessing the extent of the student's participation in class discussions and their response to questions and challenges.

2- Contribution Assessment: Assessing the student's contribution to lectures and discussions by offering new ideas, providing relevant examples and experiences, and sharing additional readings or resources.

3- Creativity Assessment: Assessing the student's ability to creatively apply the concepts presented in the course and provide innovative solutions to challenges.

4- Collaboration Assessment: Assessing the student's collaboration with classmates in group work and their contribution to achieving the objectives of joint projects.

5. A variety of tools can be used to assess participation, such as participation reports, class discussion assessments, lecturer notes, and evaluations of group projects and activities. Assessment criteria should be made clear to students from the outset, and constructive feedback should be provided to promote continuous improvement.

6. Allocating a percentage of the grade to assignments, daily tests, monthly and final exams is a guide to assessing commitment and academic achievement.

10. Evaluation methods

Weekly, monthly, daily and final exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Doctor	Geology	Geophysics			Staff	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)
Central Admission

13.The most important sources of information about the program

Principle of geophysical methods in geological exploration.

Applied Geophysics.

14.Program Development Plan

20% annually

Continuous inclusion of topics that are in line with modernity, the requirements of scientific and practical life, and the findings of scientists.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025	Geo35125	Seismic and electrical	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:	
Seismic and electrical	
2. Course Code:	
Geo35125	
3. Semester / Year:	
Semester	
4. Description Preparation Date:	
5/ 10/ 2024	
5. Available Attendance Forms:	
In-person only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
125 semester hours. 2 hours per week of theory, 3 hours of practical wo and 50 hours of online study.	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Riyadh Muhawish Rashid Alazzawi Email: riyadhalazzawi@tu.edu.iq	
8. Course Objectives	
Course Objectives	**Providing an overview of these two methods a their important role in geological surveying operations in general, as well as their use in various exploration operations.**
9. Teaching and Learning Strategies	
Strategy	Teaching and Learning Methods: Lectures are delivered in a practical, real-world manr engaging students in the course material without deviat from the core subject matter. The goal is to ensure that t material is presented within a practical application framewo In addition, students are assigned individual and gro activities and assignments. Modern presentation toc supported by graphics and illustrations, will be used. Assessment Methods: 1- Participation Assessment: Assessing the extent of t student's participation in class discussions and their respon to questions and challenges.

2- Contribution Assessment: Assessing the studen contribution to lectures and discussions by offering new ide providing relevant examples and experiences, and shari additional readings or resources.

3- Creativity Assessment: Assessing the student's ability creatively apply the concepts presented in the course a provide innovative solutions to challenges.

4- Collaboration Assessment: Assessing the studen collaboration with classmates in group work and th contribution to achieving the objectives of joint projects.

5. A variety of tools can be used to assess participation, such participation reports, class discussion assessments, lectu notes, and evaluations of group projects and activiti Assessment criteria should be made clear to students from t outset, and constructive feedback should be provided promote continuous improvement.

6. Allocating a percentage of the grade to assignments, da tests, monthly and final exams is a guide to assessi commitment and academic achievement.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2+3	Providing students with skills to analyze and interpret seismic and electrical data in exploration.	Introduction to Geophysics and the Role of Scientists in Advancing this Science	Explaining scientific material u modern explanation techniques, clarifying through equations solving problems on board.	Weekly, mont daily, written, end-of-year exams
2	2+3		Principles of Sound Wave Propagation in Rock Media.		
3	2+3		Sources of energy used in seism exploration		
4	2+3		Types of seismic surveys.		
5	2+3		Modern techniques in seismic reflection methods.		
6	2+3		Modern techniques in seismic refraction methods.		
7	2+3		Differences between seismic reflection and seismic refraction surveys.		
8	2+3		Ambiguity in interpreting seismi data.		
9	2+3		Introduction to the Electrical Method and its Applications.		
10	2+3		The Electrical Resistivity Metho		

			and Deployment Techniques.		
11	2+3		Field Measurement Methods for Electrical Conductivity.		
12	2+3		Methods for interpreting electric survey results.		
13	2+3		Presentation of Electrical Resistivity Results.		
14	2+3		Ambiguity in the Interpretation Electrical Resistivity Method.		
15	2+3		Sources of Noise in Electrical Resistivity Measurements.		

11.Course Evaluation

Distribution as follows: 35 marks for monthly and daily semester exams. 15 marks for practical exams and reports. 50 marks for final exams.

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	1. Principle of geophysical methods geological exploration
Main references (sources)	2. Applied Geophysics
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Ministry Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority
circleQuality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2024

The Introduction:

The educational program is a coordinated and organized package of courses that include procedures and experiences organized in the form of study vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs, such as the external examiner program.

The academic program description provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone in obtaining program accreditation, and the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments and changes in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, semester) in addition to adopting the description of the academic program circulated pursuant to the letter of the Department of Studies TM3/2906 dated 5/3/2023 regarding programs that adopt the Bologna process as a basis for their work.

In this regard, we cannot but emphasize the importance of writing a description of academic programs and courses to ensure the smooth running of the educational process.

Concepts and terms:

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

Course Description:Provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the learning opportunities available. It is derived from the programme description.

Program vision: An ambitious vision for the future of the academic program to be an advanced, inspiring, motivating, realistic and applicable program.

Program message: It briefly explains the objectives and the activities required to achieve them, and it also identifies the paths and directions of the programme's development.

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

Curriculum structure: All courses/subjects included in the academic program according to the approved learning system (semester, year, Bologna track) whether they are required (ministry, university, college and scientific department) with the number of academic units.

Learning outcomes:A compatible set of knowledge, skills and values acquired by the student after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the program's objectives.

Teaching and learning strategies: It is the strategies used by the faculty member to develop the teaching and learning of the student and they are plans that are followed to reach the learning objectives. That is, it describes all the classroom and extracurricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University name: University of ....Tikrit.....
College/Institute: College of .....the sciences.....
Scientific Department: Department of .....Earth Sciences.....
Name of academic or professional program:Master's.....mathematics
Final Certificate Name:Master'sin .Mathematics.....
Academic system: Annual
Description preparation date:10/5/2023
Date of filling the file: 22/01/2025

the signature :
Scientific Assistant Name:
the date :

the signature :
Name of the Department Head:
the date :

Check the file before
Quality Assurance and University Performance Division
Name of the Director of the Quality Assurance and University Performance Division:
the date
the signature

Dean's approval

1.	**Program vision**

Seekingcollege the sciencesTo be one of the leading higher education institutions inuniversity TikritIn the field of modern education and scientific research through its scientific, research and administrative activities, it also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of education.the sciencesSnake and its education.

2. Program message

Working on preparing and graduating pioneering scientific and leadership competencies inthe sciencesAnd its sciences and literature, and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively, emphasizing social and cultural values and responding to the requirements of the local market.

3. Program objectives

1. **Embodying vision, mission and goalsuniversity TikritAnd applying the best educational practices with a focus on ensuring and enhancing quality and performance.**
2. **Preparing specialized cadres capable of serving the community and preparing for future specializations.**
3. **Disseminating the culture of human diversity in society, transferring knowledge and linguistic skills, writing academic research and creative scientific achievement through activities that focus on the student and the teacher.**
4. **The college seeks to conclude scientific and cultural cooperation agreements with similar colleges and departments in different colleges to achieve the best practices in the fields of education.**
5. **Focusing on the educational and moral aspects of all its members and spreading the spirit of dedication, tolerance, commitment and work to serve the nation.**
6. **Interest in intellectual and cultural development through openness to the experiences of other countries in the fields ofVarious sciences.**

Focus on the educational and moral side of the student and instill a spirit of dedication, tolerance and commitment.

4. Programmatic accreditation

nothing

5. Other external influences

nothing

6. Program Structure

comments *	percentage	Study unit	Number of courses	Program Structure
Basic course		90	90	**Institutional**

				Requirements
			Yes	**College Requirements**
			Yes	**Department Requirements**
			nothing	**Summer training**
				Other

* Notes may include whether the course is basic or optional.

7. Program Description

Credit hours		Course name	Course code	Year/Level
	theoretical	statistics		2024-2025/ thesecond

8. Expected learning outcomes of the program

Knowledge	
	Informing students about the importance of theoriesStatistics, its uses and importance in society
Skills	
	Skill expansionAbility to perform statistical and graphical analysis
Values	
	Developing students' ability to share ideas
	Disclosing one's thoughts and feelings Towards life matters, including the scientific material in statistics

9. Teaching and learning strategies

-Explanation of the scientific materialBy using colored pens, a board, and various educational tools.

2- Write a review paper for each.exampleSummarizes the most important ideas raised during the lectures.

3- Connect aExplanation and discussion through the previous lecture and the new lecture

10. Evaluation methods

Weekly, monthly, daily and end of year exams.

11. Faculty

Faculty members

Faculty preparation		Special requirements/skills (if any)		Specialization		Academic Rank
	angel			**private**	**general**	
	angel			Time series	mathem atics	Teacherassistant

Professional development

Orientation of new faculty members

Professional development for faculty members

12. Acceptance Criteria

13. The most important sources of information about the program

Bristow, J. (Ed.). (2000). The Cambridge companion to Victorian poetry. Cambridge University Press

Cronin, R. (2012). Reading Victorian Poetry (Vol. 5). John Wiley & Sons.

14. Program development plan

A scientific study on the types of statistics, their divisions, and how to benefit from statistical methods in areas of daily life.

Program Skills Chart																
Required learning outcomes of the program																
Values				Skills				Knowledge				Essential or optional?	Course name	Course code	Year/Level
A4	A3	A2	A1	B4	B3	B2	B1	A4	A3	A2	A1				

	—					—					—	essential	statistics		2023-2024

● **Please tick the boxes corresponding to the individual learning outcomes of the programme being assessed.**

Course Description Form

1. Course name:statistics	
2. Course code:	
3. Semester/Year: Annual	
Annual	
4. Date this description was prepared: / 2025/1/22	
5. Available attendance forms:	
In-person only	
6. Number of study hours (total) / Number of units (total):	
78One hour per year.2One hour per week	
7. Name of the course administrator (if more than one name is mentioned)	
The name: Mr. Zineb Hassan Ahmed Email:Zahmed@edu.tu.iq	
8. Course objectives	
• ..... • ..... •	1- Providing students with the skill of application.Statistics and its use in everyday life 2-Skill expansionStatistical analysis application 3-clarification Most important Types of statistics, methods and uses
9. Teaching and learning strategies	
1-Education Strategy The cooperative concept is blown away. 2-Brainstorming teaching strategy. 3-Education Strategy Notes Series	**Strategy**

10. Course structure					
Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
AFor weekly, monthly, daily, written and end-of-year exams.	Explanation of the scientific material fromExplanation on the boardAnd give the most importantImportant examplesA. 2- Write a review paper for each.Important exercise Summarizes the most important ideas raised during the lectures.	English Victor Poetry	1- Providing students with analysis skillsStatisticsBy applyingTypes And statistical methods 2- Informing students about the importance of theories.statistics	2hour 2hour	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 vacatio 16 17 18 19 19 20 21 22 23 24 25 26 27 28 29 30

	3-Linking ideasAnd the applications of statistics that are usefulthe eStudents				

11. Course Evaluation	
distributionAs follows: 25 marks for monthly and daily exams for the first semester. 25 marks for monthly and daily exams for the second semester. 50 marks for final exams	
12. Learning and teaching resources	
General Statistics Book	Required textbooks (methodology if any)
	Main References (Sources)
. . .	Recommended supporting books and references (scientific journals, reports, etc.)
https://zlibrary-asia.se/ https://www.researchgate.net/	Electronic references, websites

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

Academic Program and Course Description Guide

2024

Introduction:

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

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Concepts and terminology:

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

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

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

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determine the learning outcomes of each course in a way that achieves the objectives of the program.

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

Academic Program Description Form

University Name: Tikrit
Faculty/Institute: Science college
Scientific Department: Applied geology
Academic or Professional Program Name: Bachelor in Applied geology

Final Certificate Name: Bachelor in Applied geology
Academic System: first semester course.
Description Preparation Date: 1/10/2024
File Completion Date: 3/11/2024

Signature:
Head of Department Name:

Date:

Signature:
Scientific Associate Name:

Date:

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. **Program Vision**
The College of Science aims to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research, and administrative activities. It also works to provide an integrated pathway for its students and faculty members, enabling them to become

active and creative contributors to serving society in the fields of natural sciences (biology, chemistry, physics, and geology) and their teaching.

2. Program Mission

Working to prepare and graduate leading scientific and leadership competencies in natural sciences, scientific research, and their ethics, as well as advancing the knowledge base in scientific research to serve the local, regional, and international community. Additionally, it focuses on training and honing students' minds scientifically and intellectually, emphasizing social and cultural values, and responding to the demands of the local market.

3. Program Objectives

1. Embodying the vision, mission, and goals of Tikrit University, while applying best educational practices with a focus on ensuring and enhancing quality and performance.
2. Preparing specialized cadres capable of serving society and equipping them for future specializations.
3. Promoting a culture of human diversity in society, transferring knowledge and scientific skills, writing academic research, and achieving creative scientific accomplishments through student- and faculty-centered activities.
4. The College seeks to establish scientific and cultural cooperation agreements with peer colleges and departments across various institutions to achieve best practices in education, learning, and translation.
5. Emphasizing the educational and ethical aspects for all its members, fostering a spirit of dedication, tolerance, commitment, and service to the nation.
6. Focusing on intellectual and cultural development by engaging with the experiences of other countries in the fields of natural sciences and scientific research across its various disciplines.

4. Program Accreditation

Nothing

5. Other external influences

nothing

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	2	3		Core course
College Requirements	Yes			
Department Requirements	Yes			
Summer Training	Yes			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
Forth grade		Engineering geology	theoretical	practical
				Yes

8. Expected learning outcomes of the program

Knowledge

1- After receiving this material, the student can evaluate the engineering properties of soil for multiple engineering purposes.
2- Evaluating the engineering properties of rocks for various engineering purposes such as buildings, foundations, bridges, tunnels, etc.
3- Evaluating the stability of rock slopes.
4- Evaluation of geotechnical properties.
5- Engineering classification of soil and rocks

Skills

Transferable general and qualifying skills (other skills related to employability and personal development).
1- He can transfer information to others.
2- He can convey and make students understand some difficult information.
3- He can solve problems related to the course,
4- Thinking with fellow students in small groups

Ethics

1- Reception

At this level, the student shows interest in the subject of engineering geology and its study, and the learning outcomes range from simple awareness to interest, to acceptance, then innovation and creativity.

2- Response

Here the student's level of interest goes beyond participation, so that he takes a position on the subject of study.

3- Value judgment

Here the student moves to a higher level by giving value to the subject, a value that has an impact on the student's personality.

4- Value organization

It means building a value system for the student based on comparison, linking, and grouping, so that the learner forms his own concepts related to value.

5- Normalization or labeling with value

It is the highest level where value is formed as a characteristic that distinguishes the student from others and influences his behavior, through which he can develop his lifestyle.

9. Teaching and Learning Strategies

1- **Deliver lectures in-person after publishing them on the class's Classroom website.**
2- **Present images and diagrams related to the lecture using PowerPoint.**
3- **Utilize simulation programs to explain the lecture in a more scientific and clear manner.**
4- **Use 3D educational videos through platforms like YouTube to help students visualize devices and their structures effectively.**

10. Evaluation methods

1- **Reports**
2- **Daily quizzes**
3- **Oral questions during lecture time**
4- **Brainstorming**

5- **End-of-semester exams**

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	**Special**			**Staff**	**Lecturer**
Assistant teacher	Applied geology	Engineering geology				**Lecturer**

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

1- **Systematic engineering geology book**
2- **Book of practical applications in engineering geology**

14.Program Development Plan

1- Using the latest sources and including topics that are consistent with modernity, the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.
2- Introducing advanced scientific equipment into the engineering geology subject to carry out scientific experiments in the laboratory, which enhances the student's ability to understand the subject.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2024-2025		Engineering geology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Engineering geology
2. Course Code:
30 hours per academic term, 3 hours weekly.
3. Semester / Year:
First Semester
4. Description Preparation Date:
3/11/2024
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours per academic term, 3 hours weekly.
7. Course administrator's name (mention all, if more than one name)
Name: Laith Ikhlas Salah Email: laith.ikhlas.salah@tu.edu.iq
8. Course Objectives
1- After receiving this material, the student can evaluate the engineering properties of soil for mult engineering purposes. **2- Evaluating the engineering properties of rocks for various engineering purposes such as buildi foundations, bridges, tunnels, etc.** **3- Evaluating the stability of rock slopes.** **4- Evaluation of geotechnical properties.** **5- Engineering classification of soil and rocks**
Teaching and Learning Strategies

Strategy	1- **Cooperative Concept Planning Teaching Strategy** 2- **Brainstorming Teaching Strategy** 3- **Observation Series Teaching Strategy**

9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-	3hour	**A general introductory lecture on engineering Tests.**			
2-	3hour	**Moisture content Test**			

3-	3hour	**Sieve (mechanical) analysis Test**			
4-	3hour	**Wet analysis test (hydrometer)**			
5-	3hour	**Test of the specific gravity of the soil**			
6	3hour	**Test soil permeation limits**			
7	3hour	**Monthly exam**			
8	3hour	**Direct soil shear Test**			
9	3hour	**Consolidation Test**			
10	3hour	**Uniaxial compressive strength Test**			
11	3hour	**Triaxial compressive strength test**			
12	3hour	**Point load Test**			
13	3hour	**Test of mechanical corrosion in rock**			
14	3hour	**(Los Angeles)**			
15	3hour	**Second exam + pursuits**			

10.Course Evaluation	
30 Marks for Theory, 15 Marks for Practical Work, and 5 Marks for Classroom Activities.	
11.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Engineering geology book

Main references (sources)	Book of practical applications engineering geology
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Iraqi Virtual Electronic Library (IVEL). Internet resources relevant to the subject matter.

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Accreditation Department

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2024

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Academic Program Description Form

University Name: ...Tikrit.....
Faculty/Institute: .....College of Science.....
Scientific Department: .....Applied Geology .....
Academic or Professional Program Name: ..Geology.....
Final Certificate Name: .....Bachelor in Geology.....
Academic System: …Semsters……
Description Preparation Date: 5-10-2024
File Completion Date: 14-5-2025

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. **Program Vision**
The Department of Geosciences adopts as its goal to become a nationally recognized leader in integrating research excellence and education in applied geology. In research, we strive to sustain and grow a resource platform that

continues to enable our scientists to contribute at high levels to internationally significant research problems in geology. In education, we strive to provide students with opportunities to discover and develop relevant knowledge and skill sets that will enable them to achieve their professional goals. We believe that creative integration of research with education will promote excellence in both. We will create undergraduate programs that attract students from across nation and prepares them for professional careers, and we will become a significant component of foundational education at Tikrit University**.**

2. Program Mission

The Department of Applied Geology at Tikrit University creates and disseminates knowledge about Earth's processes and properties for students, scientists, and the public to help create a scientifically informed community. We provide high quality educational opportunities for students seeking PhD, MS, and BS degrees in core strength areas within Applied Geology, and bring earth science principles to the foundational education mission of the university. In all programs, we enable students to discover and develop relevant knowledge and skillsets so that they can achieve their professional goals and pursue solutions to resource and environmental challenges facing the state, nation, and world. We welcome motivated individuals who are passionate about science, value diversity and tolerance, and believe in wise stewardship of our planet through critical thinking and dialogue.

3. Program Objectives

1. Prepare students for professional careers in natural resources or environmental sciences, graduate school for advanced studies, or any future where scientific thinking is used. The four degree track options are geology, geophysics, hydrology, and secondary education.
2. Prepare students for successful scientific, technical or management careers in the geosciences or related fields
3. Provide employers with a well-educated workforce that is ready and able to perform valuable scientific, technical or managerial services immediately after graduation
4. Encourage the growth of knowledge-based industry and stimulate economic growth in Iraq.
5. Acquire advanced knowledge of geology and earth system science in addition to their major area of study area
6. Acquire advanced knowledge of hydrology and earth system science in addition to their major area of study area.

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training	**Yes**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First		**Crystallography**	**2**	**2**

8. Expected learning outcomes of the program

Knowledge

1. Recognizing the crystalline materials from the non-crystalline materials.
2. Recognizing the different shapes of the mineral crystals.
3. Understand the formation mechanism of these shapes .
4. Understanding the formation of some phenomenon in minerals such as twinning and cleavage.
5. This course is a basic for other topics such as mineralogy.

Skills

Identify the crystal systems of the minerals	
Speculation the minerals type through crystal system	

Ethics

9. Teaching and Learning Strategies

1. Class lecture
2. Laboratory
3. Tutorial

5. Assignments

10. Evaluation methods

Examinations (Oral and written).

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Geology	Geochemistry			1	
Assistant Professor	Geology	Structural Geology			1	

Professional Development

Mentoring new faculty members

Professional development of faculty members

12.Acceptance Criterion

The admission is subjected to Ministry of Higher Education and Scientific Research rules.

13.The most important sources of information about the program

Journals, Review articles, Books

14.Program Development Plan
We plan to have a new devices for analysis such as XRD, SEM; in addition to typical samples for the crystal systems.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First		Crystallography	Basic	√					√			√			

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Crystallography
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
14-2-2024
5. Available Attendance Forms:
Attendance only
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours/ 4 hours per week
7. Course administrator's name (mention all, if more than one name)
Name: Mohamed W. Alkhafaji Email: mohamedajeel@tu.edu.iq Ayed H. Ward Ayed.ward@tu.edu.iq
8. Course Objectives

Course Objectives	1. To understand how the crystalline materials form. 2. To understand the internal structure of the geological materials. 3. To understand the factors controlling the forms and shapes of the minerals. 4. To interpret to the different shapes and forms of the elements. 5. To understand the formation of cleavage, twinning and other structures in minerals.
9. Teaching and Learning Strategies	
Strategy	1. Class lecture 2. Laboratory 3. Quiz 4. Tutorial 5. Assignments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Definition of crystal crystallization, eleme of crystal	Introduction	Class Lecture	Oral or written examina
2	4	Types of systems	Crystal systems	Class Lecture	Oral or written examina
3	4	Elements of symme	Crystal symmetry	Class Lecture	Oral or written examina
4	4	Calculation the Wei parameters	Axial ratios and Intercep	Class Lecture	Oral or written examina
5	4	Calculation Mille indices	Miller indices	Class Lecture	Oral or written examina
6	4	Evaluation	Mid-term Exam	Class Lecture	Oral or written examina
7	4	Types of forms	Crystal form and habita		Written examinatior
8	4	Calculation the zor number and its applications	Zone	Class Lecture	Oral or written examina
9	4	Crystal drawing an crystal projection	Crystallographic projectio	Class Lecture	Oral or written examina
10	4	Crystal classes of triclinic, monoclini orthorhombic syste	Crystal classes-1	Class Lecture	Oral or written examina
11	4	Crystal classes o tetragonal, hexagor and cubic systems	Crystal classes-2	Class Lecture	Oral or written examina
12	4	Understanding the internal structure of crystal	Internal structure of th crystals	Class Lecture	Oral or written examina
13	4	Types of Bravais u cells	Bravais lattices	Class Lecture	Oral or written examina
14	4	Formation and types twinning	Twinning	Class Lecture	Oral or written examina
15	4	Principles and application of XED crystallography	XRD in Crystallography	Class Lecture	Oral or written examina

11.Course Evaluation

Daily preparation... 10
Oral examination...10
Reports...10
Written Examination..10
Practical...10
Final Examination.....50

12.Learning and Teaching Resources

Required textbooks (curricular books, any)	Crystallography
Main references (sources)	Introduction to Mineralogy
Recommended books and references (scientific journals, reports...)	Journal of Mineralogy Geochemica et Cosmochemica acta
Electronic References, Websites	https://www.sciencedirect.com/topics/chemistry/geochemi

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Description Preparation Date: 5-10-2024
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Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

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Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

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4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training	**Yes**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third		**Geochemistry**	**2**	**2**

8. Expected learning outcomes of the program

Knowledge

1. Recognizing the distribution of elements in the earth zones.
2. Describe the composition of the Earth´s main geochemical reservoirs
3. Understand the behavior of elements in the geological systems.
4. Understanding the main minerals and elemental constituents of the earth zones.
5. Understanding the variation in the structure of the earth from core to crust.
6. Understanding the factors controlling the variations in rock types.
7. Explain fractionation of stable isotopes and how such data can be used to understand various geochemical and geobiological processes.
8. Describe the use of geochronology to date magmatic and metamorphic events
9. Describe how radiogenic isotope signatures can be used to trace the source of minerals, rocks and fluids

Skills

Identify and classify common rock forming minerals.	
Identify the most common	

elements in the Earth's crust and their order of abundance	
Ethics	

9. Teaching and Learning Strategies

1. Class lecture
2. Laboratory
3. Tutorial

5. Assignments

10. Evaluation methods

Examinations (Oral and written), and quiz

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
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We plan to have a new devices for analysis such as XRD, XRF, and ICP-MS

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Third		Geochemistry	Basic		√			√				√			

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Geochemistry
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
14-2-2024
5. Available Attendance Forms:
Attendance only
6. Number of Credit Hours (Total) / Number of Units (Total)
60hours/ 4 hours per week
7. Course administrator's name (mention all, if more than one name)
Name: Mohamed W. Alkhafaji Email: mohamedajeel@tu.edu.iq Tahir Mahmood Taha Tahir.mahmood@tu.edu.iq
8. Course Objectives

Course Objectives	The course aims to give a broad introduction into geochemical principles and research practices used understand processes operating on, in and betw Earth's various geochemical and geobiological syste (mantle, crust, oceans, atmosphere), and the role of in such processes.

9. Teaching and Learning Strategies	
Strategy	1. Class lecture 2. Laboratory 3. Quiz 4. Tutorial 5. Assignments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Getting basic information about at structure	Introduction to Rock Geochemistry	Class Lecture	Oral or written examina
2	4	Getting informatio about the compositi	Solar system	Class Lecture	Oral or written examina

		of the solar system			
3	4	The main information sour on the earth's inte	Sources of information earth's interior	Class Lecture	Oral or written examina
4	4	Composition, classification, and importance of meteorites	Meteorites	Class Lecture	Oral or written examina
5	4	The composition of earth's crust	Earth crust	Class Lecture	Oral or written examina
6	4	The composition of earth's upper mant	Upper mantle	Class Lecture	Oral or written examina
7	4	Evaluation	Mid-term Examinatio	Class Lecture	Oral or written examina
8	4	The composition of earth's transition zo and lower mantle	Transitional zone and lo mantle	Class Lecture	Oral or written examina
9	4	The composition of earth's core	Earth's core	Class Lecture	Oral or written examina
10	4	Theories about t origin of earth	Origin of earth	Class Lecture	Oral or written examina
11	4	The geochemistry the hydrospher	Hydrosphere	Class Lecture	Oral or written examina
12	4	The geochemistry the atmosphere	Atmosphere	Class Lecture	Oral or written examina
13	4	Composition of th organic matter and t source rock evaluati	Organic geochemis	Class Lecture	Oral or written examina
14	4	The importance o radiogenic isotop in Geology	Radiogenic isotope	Class Lecture	Oral or written examina
15	4	The importance o stable isotopes i Geology	The importance o stable isotopes in Geology	Class Lecture	Oral or written examina

11.Course Evaluation

Daily preparation... 10
Oral examination...10
Reports...10
Written Examination..10
Practical...10
Final Examination.....50

12.Learning and Teaching Resources

Required textbooks (curricular books, any)	Geochemistry, by Salim M. Al-Dabbagh
Main references (sources)	Introduction to Geochemistry, by Whi 2017
Recommended books and references (scientific journals, reports...)	Journal of Geochemistry
Electronic References, Websites	https://www.sciencedirect.com/topics/chemistry/geochemi

Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
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Academic Program and Course Description Guide

2025

Introduction:

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

Concepts and terminology:

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

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

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

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determine the learning outcomes of each course in a way that achieves the objectives of the program.

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

Academic Program Description Form

University Name: Tikrit
Faculty/Institute: Science college
Scientific Department: Applied geology
Academic or Professional Program Name: Bachelor in Applied geology

Final Certificate Name: Bachelor in Applied geology
Academic System: first semester course.
Description Preparation Date: 1/9/2024
File Completion Date: 1/9/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

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The College of Science aims to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research, and administrative activities. It also works to provide an integrated pathway for its students and faculty members, enabling them to become

active and creative contributors to serving society in the fields of natural sciences (biology, chemistry, physics, and geology) and their teaching.

2. Program Mission

Working to prepare and graduate leading scientific and leadership competencies in natural sciences, scientific research, and their ethics, as well as advancing the knowledge base in scientific research to serve the local, regional, and international community. Additionally, it focuses on training and honing students' minds scientifically and intellectually, emphasizing social and cultural values, and responding to the demands of the local market.

3. Program Objectives

1. Embodying the vision, mission, and goals of Tikrit University, while applying best educational practices with a focus on ensuring and enhancing quality and performance.
2. Preparing specialized cadres capable of serving society and equipping them for future specializations.
3. Promoting a culture of human diversity in society, transferring knowledge and scientific skills, writing academic research, and achieving creative scientific accomplishments through student- and faculty-centered activities.
4. The College seeks to establish scientific and cultural cooperation agreements with peer colleges and departments across various institutions to achieve best practices in education, learning, and translation.
5. Emphasizing the educational and ethical aspects for all its members, fostering a spirit of dedication, tolerance, commitment, and service to the nation.
6. Focusing on intellectual and cultural development by engaging with the experiences of other countries in the fields of natural sciences and scientific research across its various disciplines.

4. Program Accreditation

Nothing

5. Other external influences

nothing

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	2	3		Core course
College Requirements	Yes			
Department Requirements	Yes			
Summer Training	Yes			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
Third grade		Hydrogeology	theoretical	practical
			Yes	Yes

8. Expected learning outcomes of the program

Knowledge

- What are groundwater and where are they found?
- How are they stored within the Earth's layers?
- What are the types of reservoirs containing water?
- Understanding the hydraulic properties of reservoirs.
- Explaining the importance of this science in reality and how to preserve groundwater.
- Understanding how to calculate the concentrations of ions present in water.

Skills

General and Transferable Skills (Other Skills Related to Employability and Personal Development):

1. **After completing this course, the student will be able to identify groundwater locations and how to manage different types of reservoirs.**
2. **Learn how to determine the hydraulic properties of reservoirs.**
3. **Evaluate the efficiency of reservoirs over the long term.**
4. **Assess the suitability of water for various uses.**

Ethics

1- **Reception:**
At this level, the student shows interest in the subject of groundwater hydrology and its study. Learning outcomes range from basic awareness to interest, leading to acceptance, innovation, and creativity.

2- **Response:**
Here, the student's interest progresses to active participation, adopting a stance toward the subject matter.

3- **Valuation:**
The student advances to a higher level by assigning value to the topic, making it impactful on their personality.

4- **Value Organization:**
This involves constructing a value system for the student based on comparison, connection, and synthesis, enabling them to develop their own concepts related to the value.

5- **Value Internalization (Characterization):**
This is the highest level, where the value becomes a defining trait of the student, influencing their behavior and allowing them to develop a lifestyle shaped by this value.

9. Teaching and Learning Strategies

1- Deliver lectures in-person after publishing them on the class's **Classroom** website.
2- Present images and diagrams related to the lecture using **PowerPoint**.
3- Utilize simulation programs to explain the lecture in a more scientific and clear manner.
4- Use 3D educational videos through platforms like **YouTube** to help students visualize devices and their structures effectively.

10. Evaluation methods

1- Reports
2- Daily quizzes
3- Oral questions during lecture time
4- Brainstorming
5- End-of-semester exams

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	**Special**			**Staff**	**Lecturer**
Lecturer	Applied geology	Hydro-sediment				**Lecturer**

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

1- **Groundwater Hydrology**
2- **Todd's Groundwater Hydrology**
3- **Fetter's Applied Hydrogeology**
4- **Basic Groundwater Hydrology**

14.Program Development Plan

1- Incorporating the latest resources and continuously updating topics to align with modern advancements, scientific discoveries, and the requirements of academic and professional life.
2- Introducing advanced scientific instruments in groundwater hydrology to conduct laboratory experiments, enhancing students' understanding of the subject.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024		Hydrgeology and hydrochemistry	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Hydrogeology and hydrochemistry
2. Course Code:
30 hours per academic term, 3 hours weekly.
3. Semester / Year:
First Semester
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours per academic term, 3 hours weekly.
7. Course administrator's name (mention all, if more than one name)
Name: Sabbar Abdullah Salih Name: ektifa taha abdulqader Email: ektifa.taha@tu.edu.iq Name: Nawfel Hassan
8. Course Objectives
Course Objectives **1- General and Transferable Skills (Other Skills Related to Employability and Personal Development):** **2- After completing this course, the student will be able to identify groundwater locations and how to manage different types of reservoirs.** **3- Learn how to determine the hydraulic properties of reservoirs.** **4- Evaluate the efficiency of reservoirs over the long term.** **5- Assess the suitability of water for various uses**
Teaching and Learning Strategies

Strategy	1- **Cooperative Concept Planning Teaching Strategy** 2- **Brainstorming Teaching Strategy** 3- **Observation Series Teaching Strategy**

9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1- 2- 3- 4- 5- 6 7 8 9 10 11	3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour	**Groundwater and Its Origin, Fresh Groundwater:** • **Definition and sources of groundwater.** • **Characteristics of fresh groundwater.** **Porosity, Effective Porosity, and Specific Yield:** • **Understanding porosity and its effective role in groundwater storage.** • **Specific yield as a measure of water release from soil or rock.** **Hydraulic Properties:** • **Analysis of permeability, transmissivity, and storage coefficient.** **Types of Reservoirs and Aquifers:** • **Confined and unconfined aquifers.** • **Saturated and unsaturated zones.** **Saltwater Intrusion and Related Phenomena:** • **Saltwater intrusion and its impact.** • **Concepts of cone of depression, gaining, and losing streams.** **Bank Storage and Hydraulic Conductivity Calculation:** • **The process of bank storage.** • **Methods for determining hydraulic conductivity.** **Midterm Exam:** • **Topics up to hydraulic conductivity.** **Groundwater Movement and Gradients:** • **Vertical and horizontal hydraulic gradients.** • **Types of flow and flow**			

		networks.			
12	3hour	**Pump Testing Methods:** • **Theis method for drawdown analysis.** • **Theis recovery method and Jacob's method.**			
13	3hour	**Hydrochemistry of Water:** • **Water chemistry and its significance.** • **Methods of water analysis and determining its suitability for various uses.**			
14	3hour	**Second Exam + Coursework**			
15	3hour	**Assessments:** • **Topics related to hydrochemistry and analysis techniques.**			

10.Course Evaluation	
30 Marks for Theory, 15 Marks for Practical Work, and 5 Marks for Classroom Activities.	
11.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Hydrology of Groundwater
Main references (sources)	*Basic Groundwater Hydrology* *Todd's Groundwater Hydrology*
Recommended books and references (scientific journals, reports...)	*Fetter's Applied Hydrogeology*
Electronic References, Websites	Iraqi Virtual Electronic Library (IVEL). Internet resources relevant to the subject matter.

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Academic Program and Course Description Guide

2025

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Faculty/Institute: Science college
Scientific Department: Applied geology
Academic or Professional Program Name: Bachelor in Applied geology

Final Certificate Name: Bachelor in Applied geology
Academic System: first semester course.
Description Preparation Date: 2/9/2024
File Completion Date: 2/2/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

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4. The College seeks to establish scientific and cultural cooperation agreements with peer colleges and departments across various institutions to achieve best practices in education, learning, and translation.
5. Emphasizing the educational and ethical aspects for all its members, fostering a spirit of dedication, tolerance, commitment, and service to the nation.
6. Focusing on intellectual and cultural development by engaging with the experiences of other countries in the fields of natural sciences and scientific research across its various disciplines.

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	2	3		Core course
College Requirements	Yes			
Department Requirements	Yes			
Summer Training	Yes			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
Third grade		Engineering hydrology	theoretical	practical
			Yes	Yes

8. Expected learning outcomes of the program

Knowledge

- After completing this course, the student will be able to estimate the amount of water entering and exiting a surface water system.
- Learn how to determine water velocity and depth, and how to calculate discharge in rivers.
- Identify the amount of water lost and compare it with the water entering the system.
- Gain the ability to estimate missing rainfall data at meteorological stations using data from nearby stations.

Skills

eneral and Transferable Skills (Other skills related to employability and personal development):

1 - Ability to convey information to others effectively.
2 - Ability to explain and clarify complex information to students.
3 - Proficiency in solving problems related to the course material.
4 - Collaborative thinking with fellow students through small group discussions.

Ethics

1- **Reception:**
At this level, the student shows interest in the subject of groundwater hydrology and its study. Learning outcomes range from basic awareness to interest, leading to acceptance, innovation, and creativity.

2- **Response:**
Here, the student's interest progresses to active participation, adopting a stance toward the subject matter.

3- **Valuation:**
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1- Reports
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Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Prof.Dr. **Lecturer**	Applied geology	Hydro-sediment				**Lecturer**

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Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the

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Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.**Acceptance Criterion**

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.**The most important sources of information about the program**

1- Engineering hydrology book

2- Hydrology H.M. Raghunath

14.Program Development Plan

1- Incorporating the latest resources and continuously updating topics to align with modern advancements, scientific discoveries, and the requirements of academic and professional life.

2- Introducing advanced scientific instruments in groundwater hydrology to conduct laboratory experiments, enhancing students' understanding of the subject.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024		hydrology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Engineering hydrology
2. Course Code:
3. Semester / Year:
Second Semester
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours per academic term, 3 hours weekly.
7. Course administrator's name (mention all, if more than one name)
Name: Sabbar Abdullah Salih Name : Maha Shahir Badawi Name: ektifa taha abdulqader Email: ektifa.taha@tu.edu.iq
8. Course Objectives
Course Objectives **1- After completing this course, the student will be able to estimate the amount of water entering and exiting a surface water system.** **2- Learn how to determine water velocity and depth, and how to calculate discharge in rivers.** **3- Identify the amount of water lost and compare it with the water entering the system.** **4- Gain the ability to estimate missing rainfall data at meteorological stations using data from nearby stations.**
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9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1- 2- 3- 4- 5- 6 7 8 9 10 11	3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour 3hour	**The Hydrological Cycle:** The process by which water moves through the atmosphere, ground, and bodies of water. **Precipitation (Rainfall) & Measuring Instruments:** Traditional measurement devices. Registered and unregistered instruments. **Rainfall Measurement Networks & Estimating Average Rainfall in a Basin:** Techniques for measuring and calculating rainfall over a specific area. **Graphical Representation of Rainfall (Hyetograph, Diagram):** Visual tools used to represent rainfall data over time. **Evaporation & Methods of Measuring Evaporation:** Understanding the processes of evaporation and the methods used to measure it. **Potential Evapotranspiration:** The combined effect of evaporation and plant transpiration from the Earth's surface. **Infiltration & Methods of Measuring Infiltration:** Study of water penetration into the soil and the tools used to measure this process. **Monthly Exam:** A test to assess understanding of the concepts taught so far. **Surface Runoff:** Components of surface runoff and the factors influencing it. Meteorological factors affecting surface runoff. Characteristics of the watershed. **River Discharge & Calculating Flow**			

12	3hour	**Rate in a Watercourse:** Theories and methods for calculating flow rates in rivers. Measuring instruments used to assess water flow.			
13	3hour	**Velocity Measurement Devices & Water Level Measurement Instruments:** Tools used to measure water speed and water levels in rivers and streams.			
14	3hour	**Base Flow Separation & Hydrograph:** Techniques for isolating base flow from storm flow and representing this in a hydrograph (standard hydrograph).			
15	3hour	**Second Exam + Assignments:** A final exam covering the remaining topics and assignments.			

10.Course Evaluation	
30 Marks for Theory, 15 Marks for Practical Work, and 5 Marks for Classroom Activities.	
11.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Engineering Hydrology Book
Main references (sources)	Hydrology H.M. Raghunath
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	The Iraqi Virtual Electronic Library Internet Sources for the Material

Ministry of Higher Education and Scientific Research

Scientific Supervision and Scientific Evaluation Apparatus
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2024

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Academic Program Description Form

University Name: .....Tikrit.....
Faculty/Institute: .....College of Science.....
Scientific Department: ...Applied Geology.....
Academic or Professional Program Name: ...Environmental Geology.....
Final Certificate Name: ..Bachelor in Geology.....
Academic System: Semester (First Semester)……
Description Preparation Date: Theoretical
File Completion Date:

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:

Date:
Signature:

Approval of the Dean

1. **Program Vision**
Program vision is written here as stated in the university's catalogue and website.

2. **Program Mission**
Program mission is written here as stated in the university's catalogue and website.

3. **Program Objectives**
1. Introduce students to environmental geology, its concepts, and its importance in addressing problems that arise from the interaction between humans and geological environments, such as the geosphere, hydrosphere, and atmosphere, and the resulting geological hazards and disasters, such as landslides, floods, earthquakes, and others. 2. Assess soil and water pollution and how to conserve these two important resources.

4. **Program Accreditation**
Does the program have program accreditation? And from which agency?

5. **Other external influences**
Is there a sponsor for the program?

6. **Program Structure**

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				

Department Requirements				
Summer Training				
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical

8. Expected learning outcomes of the program

Knowledge	
To identify environmental disasters, especially geological ones, determine their causes and evaluate their results.	To suggest appropriate scientific solutions to reduce the impact of the disaster.
Skills	
The student should innovate solutions and explanations for geological disasters.	Student knowledge of the concept of environmental geology and adaptation to solve problems.
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	
How to give lectures.	Student groups (Team Project).
tests	Videos

9. Teaching and Learning Strategies

Managing the lecture in an applied manner linked to the prevailing reality in order to attract the student to the prescribed material without straying from the heart of the matter so that the material is within the framework of practical application.
Assign students to group activities and assignments.
Use of up-to-date presentation strategies supported by graphs and illustrative models and short videos.

10. Evaluation methods

Monthly exams, Daily exams, Oral questions during lecture time based on brainstorming.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer

Professional Development
Mentoring new faculty members
Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.
Professional development of faculty members
Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

State briefly the sources of information about the program.

14.Program Development Plan

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name: Environmental Geology
2. Course Code: Geo23118
3. Semester / Year: Semester
4. Description Preparation Date: 2024 - 2025
5. Available Attendance Forms: attendance
6. Number of Credit Hours (Total) / Number of Units (Total) 30 hours
7. Course administrator's name (mention all, if more than one name)
Name: Mahmood Fadhil Abed Email: dr.mahmood@tu.edu.iq
8. Course Objectives

Course Objectives	• **Introduce students to environmental geology, its concepts, and its importance in addressing problems that arise from the interaction between humans and geological environments, such as the geosphere, hydrosphere, and atmosphere, and the resulting geological hazards and disasters, such as landslides, floods, earthquakes, and others.** • **Assess soil and water pollution how to conserve these important resources.....** • **Preparing qualified and speciali personnel in the field environmental geology in Iraq...** • **.....**

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First		Understand the lecture topic	Introduction Environmental Geolog	Meet+PDF	Online or person writ or oral exam
Secon	2	Understand the lecture topic	Environmental Geol Concepts	Meet+PDF	Online o person written oral exam
Thir	2	Understand the lecture topic	Study and classificat of natural hazards	Meet+PD	Online in-pers written oral ex
Fourt	2	Understand the lecture topic	Solar System Hazard	Meet+PDF	Online o person written oral exam
Fift	2	Understand the lecture topic	minerals and rocks	Meet+PDF	Online o person written oral exam
Sixt	2	Understand the lecture topic	Plate tectonics and environmental impa	Meet+PDF	Online o person written oral exam
Sevent	2	Monthly exam	Monthly exam	Meet+PDF	Online o person written oral exam
Eigh	2	Understand the lecture topic	Volcanoes and th associated hazards	Meet+PDF	Online o person written oral exam
Nin	2	Understand the lecture topic	Earthquakes a related hazards	Meet+PDF	
Tent	2	Understand the lecture topic	Floods	Meet+PDF	Online o person written oral exam
Elevent	2	Understand the lecture topic	Landslides	Meet+PDF	Online o person written oral exam

Twelft	2	Understand the lecture topic	Soil and environmen	Meet+PDF	Online o person written oral exam
Thirtee	2	Understand the lecture topic	mineral resources	Meet+PDF	Online o person written oral exam
Fourteen	2	Understand the lecture topic	Pollution and Wa Management	Meet+PDF	Online o person written oral exam
Fifteen	2	Monthly exam	Monthly exam	Meet+PDF	Online o person written oral exam

11.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports ..... etc

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	Environmental geology
Recommended books and references (scientific journals, reports...)	Not found
Electronic References, Websites	Not found

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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: .....Tikrit.....
Faculty/Institute: .....College of Science.....
Scientific Department: ...Applied Geology.....
Academic or Professional Program Name: ...Mining and Quarries.....
Final Certificate Name: ..Bachelor in Geology.....
Academic System: Semester (Second Semester)……
Description Preparation Date: Theoretical and practical
File Completion Date:

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:

Date:
Signature:

Approval of the Dean

1. Program Vision

Program vision is written here as stated in the university's catalogue and website.

2. Program Mission

Program mission is written here as stated in the university's catalogue and website.

3. Program Objectives

1. Introducing the student to the various types of mining extraction methods and what are the appropriate methods for extracting different types of mineral deposits

4. Program Accreditation

Does the program have program accreditation? And from which agency?

5. Other external influences

Is there a sponsor for the program?

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training				
Other				

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

7. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
			theoretical	**practical**

8. Expected learning outcomes of the program	
Knowledge	
define the Quarries and mines	Identify and use scientific processes and the scientific methods as used by geologists and with other related scientific disciplines.
Skills	
Class lecture, Laboratory, Quiz Tutorial, Assignments	
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	
How to give lectures.	Student groups (Team Project).
tests	Videos

9. Teaching and Learning Strategies

Managing the lecture in an applied manner linked to the prevailing reality in order to attract the student to the prescribed material without straying from the heart of the matter so that the material is within the framework of practical application.
Assign students to group activities and assignments.
Use of up-to-date presentation strategies supported by graphs and illustrative models and short videos.

10. Evaluation methods

Monthly exams, Daily exams, Oral questions during lecture time based on brainstorming.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer

Professional Development
Mentoring new faculty members
Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.
Professional development of faculty members
Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.**Acceptance Criterion**
(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.**The most important sources of information about the program**
State briefly the sources of information about the program.

14.Program Development Plan

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name: Mining and Quarries

2. Course Code: Geo35128

3. Semester / Year: Semester

4. Description Preparation Date: 2024 - 2025

5. Available Attendance Forms: attendance

6. Number of Credit Hours (Total) / Number of Units (Total) 175 hours

7. Course administrator's name (mention all, if more than one name)

Name: Mahmood Fadhil Abed
Email: dr.mahmood@tu.edu.iq

8. Course Objectives

Course Objectives	• **Introducing the student to various types of mining extract methods and what are appropriate methods for extract different types of mineral deposi**

9. Teaching and Learning Strategies

Strategy	define the Quarries and mines . Identify and use scientific processes and the scientific metho as used by geologists and with other related scienti disciplines. List tools and concepts commonly used by geologists.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	
First		Understand the lecture topic	Brief history of development of min science	Meet+PDF	Online or person writ or oral exam

Secon	2	Understand the lecture topic	Terms and definition	Meet+PDF	Online o person written oral exam
Thir	2	Understand the lecture topic	Physical a mechanical propert of ores and rocks	Meet+PD	Online in-pers written oral ex
Fourt	2	Understand the lecture topic	Evaluation of preliminary geolog studies of the ore	Meet+PDF	Online o person written oral exam
Fift	2	Understand the lecture topic	Mine extract methods, their typ characteristics a advantages	Meet+PDF	Online o person written oral exam
Sixt	2	Understand the lecture topic	Surface min methods	Meet+PDF	Online o person written oral exam
Sevent	2	Monthly exam	Monthly exam	Meet+PDF	Online o person written oral exam
Eigh	2	Understand the lecture topic	Subsurface min methods	Meet+PDF	Online o person written oral exam
Nin	2	Understand the lecture topic	Subsurface min methods that n artificial support	Meet+PDF	Online o person written oral exam
Tent	2	Understand the lecture topic	Subsurface min methods that n natural support	Meet+PDF	Online o person written oral exam
Elevent	2	Understand the lecture topic	Quarries	Meet+PDF	
Twelft	2	Understand the lecture topic	The concept of mineral reserve	Meet+PDF	Online o person written oral exam
Thirtee	2	Understand the lecture topic	Methods for calculat mineral reserves	Meet+PDF	Online o person written oral exam

Fourteen	2	Understand the lecture topic	Mine clos operations, la leveling a environmental preservation	Meet+PDF	Online o person written oral exam
Fifteen	2	Monthly exam	Monthly exam	Meet+PDF	Online o person written oral exam

11.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports ..... etc

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Not found
Main references (sources)	Applied Mining Geology
Recommended books and references (scientific journals, reports...)	Not found
Electronic References, Websites	Not found

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

Academic Program and Course Description Guide

2024

Introduction:

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

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

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Concepts and terminology:

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

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

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

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

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

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must

determine the learning outcomes of each course in a way that achieves the objectives of the program.

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

Academic Program Description Form

University Name: .....
Faculty/Institute: .....
Scientific Department: .....
Academic or Professional Program Name: .....
Final Certificate Name: .....
Academic System: ……
Description Preparation Date:
File Completion Date:

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. **Program Vision**
Program vision is written here as stated in the university's catalogue and website.

2. Program Mission

Program mission is written here as stated in the university's catalogue and website.

3. Program Objectives

General statements describing what the program or institution intends to achieve.

4. Program Accreditation

Does the program have program accreditation? And from which agency?

5. Other external influences

Is there a sponsor for the program?

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training				
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Learning Outcomes Statement 1
Skills	
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Ethics	

Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

10. Evaluation methods

Implemented at all stages of the program in general.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

State briefly the sources of information about the program.

14.Program Development Plan

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
2. Course Code:
3. Semester / Year:
4. Description Preparation Date:
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives	• ..... • ..... • .....

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11.Course Evaluation
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports..... etc

12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
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Accreditation Department

Academic Program and Course Description Guide

2024

Introduction:

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achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

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

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Sedimentary rocks
Final Certificate Name: Geology
Academic System: First course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:

Date:
Signature:

Approval of the Dean

1. Program Vision

Program vision is written here as stated in the university's catalogue and website.

2. Program Mission

Program mission is written here as stated in the university's catalogue and website.

3. Program Objectives

Delivering a general idea about the concept of sedimentary rocks and their importance within the specialty, Delivering a general idea about sediments and the importance of this course for the specialty, and providing students with valuable information and skills that make them familiar with the topics and complement the study of sedimentary rocks, which gives an idea about the concept of the transformation of rocks from one form to another under the influence of different geological conditions.
Preparing a group specialized in the field of sedimentary rocks in Iraq..

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	90	90		Major decided
College Requirements	Yes			

Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2023-2024/Third	Geo24120	**Sedimentary rocks**	**Theoretical**	**Practical**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	Delivering an overview of sedimentary rocks. 2- The importance of this science in earth sciences. 3- Identifying the types of sedimentary rocks and the methods of their formation in nature. 4- Classifying sedimentary rocks, identifying their types, and studying their sedimentary structures. 5- Identifying the types of sedimentary rocks, depositional conditions, mineral formation, and environmental evidence. 6- Determining the ancient environment of sedimentary rocks based on rock and microfacies. 7- Distinguishing clastic sedimentary rocks from carbonate rocks and studying their granular components and diagenetic processes.
Skills	
Learning Outcomes 2	1- Enabling the student to identify advanced methods and concepts of sedimentary rocks. 2- Identifying clastic and carbonate sedimentary rocks and identifying depositional environments.
Learning Outcomes 3	Identifying the origin of sedimentary rock types and their depositional conditions.
Ethics	
Learning Outcomes 4	Developing students' abilities to understand the subject and developing their scientific abilities in sedimentary rocks
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

Enabling the student to identify advanced methods and concepts of sedimentary rocks.

2- Identify clastic and carbonate sedimentary rocks, their distinctive minerals and

the mechanism of their formation.
3- Identify the types of clastic and carbonate sedimentary rocks and determine the depositional environments.
4- Classify clastic and carbonate sedimentary rocks.

10. Evaluation methods

Weekly, monthly, daily and end of semester exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assistant Professor Dr.	Geology	Sedimentary rocks			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

1.Sedimentary Petrology an Introduction to the Origin of Sedimentary Rocks.Tucker,M.E,2001
2.Petrology of sedimentary rocks,Boggs,Jr.2009

State briefly the sources of information about the program.

14.Program Development Plan
Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Third	Geo24120	Sedimentary rocks	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:	
Sedimentary rocks	
2. Course Code:	
Geo24120	
3. Semester / Year:	
First/First course	
4. Description Preparation Date:	
14/11/2024	
5. Available Attendance Forms:	
Attendance only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 semester hours. 4 hours weekly	
7. Course administrator's name (mention all, if more than one name)	
Name: Assisst. Prof.Dr. Amaar Jamad Mohammed Email: geoamaar1977@tu.edu.iq	
8. Course Objectives	
Course Objectives	**This curriculum is considered a complement to study of sedimentary sedimentary rocks in the th stage, which gives an idea about the concept of transformation of rocks from one form to anot under the influence of different geolog conditions.**
9. Teaching and Learning Strategies	
Strategy	1- Cooperative conceptual learning planning strategy. 2- Brainstorming learning strategy. 3- Educational notebook strategy
10. Course Structure	

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Daily Exam	11. Explaining the scientific material through educational images, sedimentary structures, field description, and identificatio n of the components of clastic rocks, sandstone rocks, and structural and non-structural carbonate rock components . The study relies on the use of rock slides under a microscope. 2. Writing a review paper for each part, describing the rocks, summarizin g the most important outcomes of the topic.	An introduction sedimentary rocks	1. To provide students with the skill of studying sedimentary rocks and their sedimentary structures and identifying the types of clastic rocks and carbonate. 2. To inform students about the importance of sedimentary rocks, their textures, classification and .importance	4	First
Daily Exam		Sedimentary of structures		4	Second
Daily Exam		Types of clastic rocks		4	Third
Daily Exam		Transportation and deposition of sediments clastic		4	Fourth
Daily Exam		Gravel sediment, Texture Characteristics		4	Fifth
Daily Exam		Sandstone sediments, Texture Characteristics, Heavy minerals nature		4	Sixth
Daily Exam		Classifications Sandstone and their types		4	Seventh
Daily Exam		Mudstone, sediment, Texture characteristics		4	Eighth
Daily Exam		Carbonate minerals, structure, characters, environments		4	Ninth
Daily Exam		Minerals carbonates , Environments, natures, origin.		4	Tenth
Monthly Exam		Diageneses processes and their types		4	Eleventh
Daily Exam		Diageneses of environments and their types		4	Twelfth
Daily Exam		Platform and their types		4	Thirteenth
Daily Exam		Environments carbonates and clastic		4	Fourteenth
Daily Exam		Exam (Theory and Lab.)		4	Fifteenth

	Linking -3 the clarification of sedimentary rock topics with students' opinions .and ideas				

11.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Sedimentary Petrology an Introduction to the Origin of Sedimentary Rocks.Tucker,M.E,2001
Main references (sources)	Petrology of sedimentary rocks,Boggs,Jr.2009
Recommended books and references (scientific journals, reports...)	كتاب علم الرسوبيات (عدنان سعد الله) Sedimentary rocksy and Sedimentary Stratigraphy
Electronic References, Websites	https://sedimentary rocks.com / https://www.researchgate.net/

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

Academic Program and Course Description Guide

2024

Introduction:

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

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Concepts and terminology:

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

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

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

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

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology ofIraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. **Program Vision**
The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of education.research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of education.

2. **Program Mission**
Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

3. **Program Objectives**
The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

4. **Program Accreditation**
No

5. **Other external influences**
No

6. **Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***

Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2023-2024/Third	Geo233	**Geology of Iraq**	**theoretical**	**practical**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	1. This curriculum covers the basics of the geology of Iraq. - 2. Identify surface geology. - 3. Use field trips to identify the nature of the geology of Iraq. 4. Identify tectonic divisions and sedimentary cycles. - 5. Quaternary sediments spread in Iraq. - 6. Collect scientific terms of Iraqi geology with their meanings.
Skills	
Learning Outcomes 2	1. Enabling the student to become able to understand the geology of Iraq. 2. The student understands the geology of Iraq and its complexities. 3. Covers information for vast areas of Iraq. -
Learning Outcomes 3	Understand the nature of the geology of Iraq Form
Ethics	
Learning Outcomes 4	Developing students' abilities to understand the subject and develop their scientific abilities in the geology of Iraq
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

1. Enable the student to identify the advanced methods and concepts of the geology of Iraq.
2- Identify the sedimentary cycles of geological formations in geological ages and surface features.
3- Identify the tectonic divisions of Iraq.
4- Identify the lithology, age and sedimentary environments of the formations.

10. Evaluation methods

Weekly, monthly, daily and end of semester exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assistant Professor Dr.	Geology				angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

1.Buday, T., 1980: The Regional Geology of Iraq: Stratigraphy and Paleogeography
, Dar Al-Kutub Publ. House, Mosul, 445p.
2. Jassim, S.Z. and Buday, T., 2006 a: Tectonic framework. In: Jassim S.Z. and Goff, J.C., (eds.), Geology of Iraq, Dolin, Prague and Moravian Museum, Berno. PP. 124-140.

State briefly the sources of information about the program.

14.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Third	Geo233	Geology of Iraq	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:	
Quaternary era	
2. Course Code:	
Geo233	
3. Semester / Year:	
First/Second course	
4. Description Preparation Date:	
14/11/2024	
5. Available Attendance Forms:	
Attendance only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 semester hours. 4 hours weekly	
7. Course administrator's name (mention all, if more than one name)	
Name: Assisst. Prof.Dr. Amaar Jamad Mohammed Email: geoamaar1977@tu.edu.iq	
8. Course Objectives	
Course Objectives	**The material is considered important to identify geological formations, nature of rocks, t sequences, thicknesses, geological age, sediment environment, and their distribution within t locations of spread and horizontal and vert extensions, and to compare them with their regio counterparts. With identification of mineral rock resources in Iraq.**
9. Teaching and Learning Strategies	
Strategy	1- Teaching strategy Collaborative concept planning. 2- Teaching strategy Brainstorming. 3- Teaching strategy Note series
10. Course Structure	

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Daily Exam	1. Explaining the scientific material by drawing the section of geological formations and conducting the comparison with the fence or regular plan. 2. Writing a review paper for each part of the practical description and summarizing the outcomes of the topic. Linking -3 the surface and subsurface sections and conducting the comparison process to determine the thicknesses and nature of the extension of the horizontal and vertical	Introduction to the Geology of Iraq	1-The student understands the geology of Iraq, fully acquainted with the nature of rocks, sedimentary structures, layer sequences, and formations spread over the surface and subsurface, with the locations of the spread of natural resources, morphological movements, and local and regional sedimentary cycles through field exploratory tours. 2- Informing students about the importance of the geology of Iraq and knowing the surface features, movements, and tectonic events throughout the .. ages	4	First
Daily Exam		The oldest history of the world including Iraq		4	Second
Daily Exam		The tectonic-kinetic framework of sedimentation in Iraq		4	Third
Daily Exam		The physiographical divisions of Iraq		4	Fourth
Daily Exam		The geosyncline basins of the Alps (marginal basin, sedimentary basin)		4	Fifth
Daily Exam		The stratigraphic position of Iraq		4	Sixth
Daily Exam		The stratigraphic sequence in the Paleozoic to the Middle Jurassic in Iraq		4	Seventh
Daily Exam		The Upper Jurassic-Early Cretaceous cycle		4	Eighth
Daily Exam		The Lower Cretaceous cycle (Late Priassic-Alpine).		4	Ninth
Daily Exam		The Cenomanian-Early Campanian cycle		4	Tenth
Monthly Exam		The Late Campanian-Maestrichtian cycle		4	Eleventh
Daily Exam		The Paleocene-Lower Eocene cycle		4	Twelfth
Daily Exam		The Late Lower Eocene-Late Eocene cycle		4	Thirteenth
Daily Exam		The Early Miocene-Middle Miocene cycle, and Quaternary sediments		4	Fourteenth
Daily Exam		Exam (Theory and Lab.)		4	Fifteenth

	.rock facies				

11.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	لوجيا العراق , 1982 د. عبد الله السياب واخرون
Main references (sources)	Jassim, S.Z. and Buday, T., 2006 a: Tectonic framework. In: Jassim S.Z. and Goff,J.C.,(eds.),Geology of Iraq,Dolin, Pra and Moravian Museum, Berno. PP. 124-140
Recommended books and references (scientific journals, reports...)	.Buday, T., 1980: The Regional Geology of Iraq: Stratigraphy and Paleogeography, Dar Al-Kutub Publ. House, Mosul, 445p.
Electronic References, Websites	https://Geology of Iraq.com /

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Academic Program and Course Description Guide

2024

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Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology ofIraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate**
Sawsin H. Fesal	**Name:Firas F. Rija**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. Program Vision

The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

2. Program Mission

Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

3. Program Objectives

The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	90	90		Major decided

College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2023-2024/second		**Micropaleontology**	**theoretical**	**Practical**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	1- Providing an overview of micropaleontology 2- The importance of this science in geology 3- Identifying the ancient environment and ancient environmental conditions 4- Distinguishing the relative ages of geological formations
Skills	
Learning Outcomes 2	1- After completing this course, the student will be able to identify the types of microfossils in geological layers. 2- Identify biostratigraphic units and identify biostratigraphic zones. 3- Identify the types of biostratigraphic units and the types of chronological stratigraphic units. 4- Identify the types of biostratigraphic units and the types of chronostratigraphic units.
Learning Outcomes 3	Developing students' ability to share ideas
Ethics	
Learning Outcomes 4	Learn about fossil classification and paleoenvironmental identification.
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Lecture delivery method:
2- Student groups (Team Project).
3- Standard method.
4- Practical lectures

10. Evaluation methods

Weekly, monthly, daily and end of semester exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor Dr.	Geology	Stratigraphy & paleontology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

Micropaleontology Book in Arabic
2- Micropaleontology Book
3- Microfossils Book

14.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Second	Geo233	Micropaleontology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:

Micropaleontology

2. Course Code:

Geo222

3. Semester / Year:

Second /Second course

4. Description Preparation Date:

14/11/2024

5. Available Attendance Forms:

Attendance only

6. Number of Credit Hours (Total) / Number of Units (Total)

60 semester hours. 4 hours weekly

7. Course administrator's name (mention all, if more than one name)

Name: Prof.Dr. Faris N. Hassan
Email: faris77@tu.edu.iq

8. Course Objectives

Course Objectives	**This aims to determine the relative age of rocks, interpret the anci environment, determine the geographical extent of the layers, and st the history of tectonic events.**

9. Teaching and Learning Strategies

Strategy	11- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method. 4- Practical lectures.

10. Course Structure

.9

Evaluation method	Learning method	Unit or subject name	Week
2	2	Introduction to Paleontology	First
2	2	Microfossil Groups and Their Taxonomic Positions in Paleontology	Second
2	2	Foraminifera	Third
2	2	External Features of the Foraminifera Shell	Fourth
2	2	Classification of Foraminifera	Fifth
2	2	Geologic History of Foraminifera	Sixth

2	2	Foraminifera Environment	Seventh
2	2	Ostracoda	Eighth
2	2	Ostracoda Classification	Ninth
2	2	Ostracoda Paleoenvironment	Tenth
2	2	Radiolaria	Eleventh
2	2	Calcareous Algae	Twelfth
2	2	Spores and Pollen Grains	Thirteenth
2	2	Morphology in Spores and Pollen Grains	Fourteenth
2	2	Theoretical and Practical Examination	Fifteenth

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12.Learning and Teaching Resources

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Main references (sources)	1- Micropaleontology Book 3- Microfossils Book
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
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2024

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Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Quaternary era
Final Certificate Name: Geology
Academic System: First course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:

Signature:

Approval of the Dean

1. **Program Vision**
The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of education.

2. **Program Mission**
Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

3. **Program Objectives**
1.This curriculum covers the basics of studying the geological formations of the Quaternary period, based on the sedimentary conditions that led to their emergence and formation, and thus studying the sedimentary changes and their presence under physical and chemical weathering conditions. 2. Preparing a group specialized in the field of the Quaternary period

4. **Program Accreditation**
No

5. **Other external influences**
No

6. **Program Structure**				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***

Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2023-2024/Fourth	Geo323	**Quaternary era**	**theoretical**	**practical**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	1. This course covers the basics of the Quaternary period. 2. Identify the Quaternary sediments. 3. Use field trips to identify the nature of Pleistocene sediments. 4 Identify the Ice Age and the secondary ice ages. 5 Explain the Quaternary ice age sediments spread in Iraq. 6. Climate changes and their impact on the Quaternary period..
Skills	
Learning Outcomes 2	1. Enabling the student to be able to understand the deposits of the Quaternary period. 2. The student understands the Quaternary period and the emergence of ice ages. 3. Provides information about the Quaternary period in Iraq. -
Learning Outcomes 3	Understands the nature of the deposits of the period and climate changes.
Ethics	
Learning Outcomes 4	Developing students' abilities to understand the subject and developing their scientific abilities in studying the Quaternary period
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

1.Enable the student to identify advanced methods and concepts of the Quaternary period.
2- Identify climate changes and glacial changes regionally and locally in the Quaternary Pleistocene period.
3-Enable the student to collect information about the Quaternary period.
4-Understand the Quaternary sediments and their complexities.

5-Cover information for vast areas of Iraq and neighboring countries.

10. Evaluation methods

Weekly, monthly, daily and end of semester exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assistant Professor Dr.	Geology				angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

1. Jassim, S.Z. and Buday, T., 2006 a: Tectonic framework. In: Jassim S.Z. and Goff, J.C., (eds.), Geology of Iraq, Dolin, Prague and Moravian Museum, Berno. PP. 124-140.

State briefly the sources of information about the program.

14.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Third	Geo164	Quaternary era	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:	
Quaternary era	
2. Course Code:	
Geo164	
3. Semester / Year:	
First/First course	
4. Description Preparation Date:	
14/11/2024	
5. Available Attendance Forms:	
Attendance only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 semester hours. 2 hours weekly	
7. Course administrator's name (mention all, if more than one name)	
Name: Assisst. Prof.Dr. Amaar Jamad Mohammed Email: geoamaar1977@tu.edu.iq	
8. Course Objectives	
Course Objectives	**The material is important to learn about Quaternary period, climate changes, the Pleistoc Ice Age, the effects of melting ice, flood events, determining ages using radioactive isotopes pollen. And to learn about the impact of changes that occurred during the Quatern period and the resulting and influential changes the Earth's surface, volcanoes and earthqua affecting human life, learning about development of humans and mammals during period and the changes that occurred. And t distribution within their locations of spread their horizontal and vertical extensions comparing them with their regional counterparts**
9. Teaching and Learning Strategies	
Strategy	1- Teaching strategy Collaborative concept planning. 2- Teaching strategy Brainstorming. 3- Teaching strategy Note series
10. Course Structure	

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Daily Exam	.	Quaternary stratigraphy and climate change	The student -1 understands the Quaternary era in Iraq, fully understanding the nature of climate changes, ice ages, and events resulting from earthquakes and volcanoes. 2- Informing students about the importance of the Quaternary era and knowing the geological history of the Pleistocene and Holocene, tectonic movements and events, and glacial changes during ..geological ages	2	First
Daily Exam		Methods of using radioactive materials in the study of the Quaternary period, carbon, oxygen		2	Second
Daily Exam		Climate changes during the Quaternary period and their differences from previous periods		2	Third
Daily Exam		Climate changes during the Quaternary period and the modern period and their impact on the sea surface		2	Fourth
Daily Exam		Geology of the Quaternary period and the stratigraphic column and determining the contact		2	Fifth
Daily Exam		Ancient geography and ancient climate and periods similar to the Quaternary period		2	Sixth
Daily Exam		Tectonic instability during the Quaternary period and its impact on climatic conditions		2	Seventh
Daily Exam		Geological history of the Pleistocene and Holocene and determining the connection between them		2	Eighth
Daily Exam		Time divisions of the Pleistocene and the period of extremity		2	Ninth
Daily Exam		Land layers and seabeds and methods of modeling		2	Tenth

		them and their importance			
Monthly Exam		Measuring the age of rocks by carbon, oxygen and other radioactive elements		2	Eleventh
Daily Exam		Changes occurring in the ice and their effects on sea level		2	Twelfth
Daily Exam		Flood events and their effects in Iraq		2	Thirteenth
Daily Exam		Environmental hazards, floods, volcanoes and earthquakes		2	Fourteenth
Daily Exam		Exam (Theory and Lab.)		2	Fifteenth

11.Course Evaluation

Distribution as follows: 40 theoretical marks for monthly and daily exams, 10% practical marks for reports and an exam, total 50%. Final exam mark 50%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Quaternary Geogeology, 2001, Prof. Tham Khazal Al-Amiri, 321 pages
Main references (sources)	Jassim, S.Z. and Buday, T., 2006 a: Tectonic framework. In: Jassim S.Z. and Goff,J.C.,(eds.),Geology of Iraq,Dolin, Prague Moravian Museum, Berno. PP. 124-140
Recommended books and references (scientific journals, reports...)	Quaternary Geology Books, Tikrit Journal of Pure Sciences. Virtual Electronic Library, Internet References
Electronic References, Websites	https:/Quaternary of Iraq.com /

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

Academic Program and Course Description Guide

2024

Introduction:

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Sedimentology
Final Certificate Name: Geology
Academic System: First course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:

Signature:

Approval of the Dean

1. Program Vision

Program vision is written here as stated in the university's catalogue and website.

2. Program Mission

Program mission is written here as stated in the university's catalogue and website.

3. Program Objectives

o deliver a general idea about the concept of sedimentary rocks and their importance within the specialty, to deliver a general idea about sediments and the importance of this course for the specialty, and to provide students with valuable information and skills that make them familiar with the topics and complement the study of sedimentary rocks, which gives an idea about the concept of the transformation of rocks from one form to another under the influence of different geological conditions. And to prepare a group specialized in the field of sedimentary rocks in Iraq.

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	**90**	**90**		**Major decided**
College Requirements	**Yes**			
Department Requirements	**Yes**			

Summer Training	**Found**			
Other				

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

7. Program Description				
Year/Level	**Course Code**	**Course Name**	**Credit Hours**	
2023-2024/Second	**Geo12017**		**theoretical**	**practical**

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1	1- Provide an overview of sedimentology. 2- The importance of this science in earth sciences 3- Identify the types of sediments, their formation methods, chemical and physical weathering. 4- How to classify rocks, diagnose their types, and study their occurrence in nature. 5- Identify their types, mineral formation methods, and environmental evidence. 6- A detailed explanation of their types, volumetric analysis methods, and providing explanations and mechanisms of their formation.
Skills	
Learning Outcomes 2	Enabling the student to identify advanced methods and concepts of sedimentology. 2- Identify the minerals of clastic and carbonate sedimentary rocks and identify depositional environments
Learning Outcomes 3	Identify the types of clastic and carbonate rocks and their sedimentary origin.
Ethics	
Learning Outcomes 4	Developing students' abilities to understand the subject and developing their scientific abilities in sedimentology
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in the implementation of the program in general.

1- nabling the student to identify advanced methods and concepts of sedimentology.
2- Identify weathering and erosion processes, transport and deposition mechanisms Identify gravel particles, analyze them, their origin and formation mechanism.
3- Identify types of clastic sedimentary rocks, their mineral compositions and depositional environments.
4- Identify heavy minerals, their types and importance for source identification

5- Identify carbonate minerals and their depositional environments
6- Study evaporites, their minerals and formation mechanism
7- Identify phosphate rocks and iron oxides and their formation methods.

10. Evaluation methods

Weekly, monthly, daily and end of semester exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Assistant Professor Dr.	Geology	Sedimentology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

1.Sedimentary Petrology an Introduction to the Origin of Sedimentary Rocks.Tucker,M.E,2001
2.Petrology of sedimentary rocks,Boggs,Jr.2009

State briefly the sources of information about the program.

14.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and

practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Second	Geo12017	Sedimentology	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Sedimentology
2. Course Code:
Geo12017
3. Semester / Year:
First/First course
4. Description Preparation Date:
14/11/2024
5. Available Attendance Forms:
Attendance only
6. Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
7. Course administrator's name (mention all, if more than one name)
Name: Assisst. Prof.Dr. Amaar Jamad Mohammed Email: geoamaar1977@tu.edu.iq
8. Course Objectives

Course Objectives	**-This curriculum is considered a complement to study of sedimentology in that it gives an idea ab the concept of minerals in nature, clastic carbonate rocks** **-Methods of formation, different geolog conditions, the effects of mechanical, chemical biological weathering, transport and sedimentat processes, and depositional environments.**

9. Teaching and Learning Strategies

Strategy	1- Cooperative conceptual learning planning strategy. 2- Brainstorming learning strategy. 3- Educational notebook strategy

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Daily Exam	1.Explaining the scientific material through mechanical analysis, applying special equations, sand volumetric analysis, and using statistical laws and equations. 2. Writing a review paper for each part describing the sand and gravel volumetric analysis, summarizing the most important outcomes of the topic. Linking -3 the explanation of sedimentary petrology topics with students' opinions and ideas	Introduction, Decomposition and Wethering	1.To provide students with the skill of studying the science of rubies and their formations and to identify the types of clastic and carbonite 2- To inform students of the importance of studying clastic and carbonite sedimentary lions, their texture and .their significance	4	First
Daily Exam		Role of water in sediment Production.		4	Second
Daily Exam		Chemical and Physical Weathering.		4	Third
Daily Exam		Transportation and deposition of Sediments (water , wind , glaciers).		4	Fourth
Daily Exam		Clastic sediment, Texture Characteristics.		4	Fifth
Daily Exam		Quartz+ Feldspar types , origin, Characters.		4	Sixth
Daily Exam		Heavy minerals nature, types, classifications.		4	Seventh
Daily Exam		Clay minerals, Minerals, types, classifications, Characters.		4	Eighth
Daily Exam		Mica , minerals ,types, origin, importance.		4	Ninth
Daily Exam		Carbonate sediments.		4	Tenth
Monthly Exam		Carbonate minerals, structure, characters, environments.		4	Eleventh
Daily Exam		Evaporates , Minerals , Environments, natures, origin.		4	Twelfth
Daily Exam		Phosphate, occurrence ,Origin, Environments.		4	Thirteenth
Daily Exam		Ironstone minerals, environments, occurrence.		4	Fourteenth
Daily Exam		Exam (Theory and Lab.)		4	Fifteenth

11.Course Evaluation

Distribution as follows: 20 theoretical marks for monthly and daily exams, 20 practical

marks for reports and an exam, total 40%. Final exam mark 60%	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Sedimentary Petrology an Introduction to the Origin of Sedimentary Rocks.Tucker,M.E,2001
Main references (sources)	Petrologyof sedimentary rocks,Boggs,Jr.20
Recommended books and references (scientific journals, reports...)	Sedimentology Basics, Sedimentology Boo Tikrit Journal of Pure Sciences Virtual Electronic Library, Inter References
Electronic References, Websites	https://sedimentology.com / https://www.researchgate.net/

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

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Academic Program Description Form

University Name: .Tikrit
Faculty/Institute: .College of Sciences.
Scientific Department: Applied of Geology.
Academic or Professional Program Name: Geology ofIraq
Final Certificate Name: Geology
Academic System: Second course
Description Preparation Date: 5/10/2024
File Completion Date: 14/11/2024

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate**
Sawsin H. Fesal	**Name:Firas F. Rija**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. Program Vision

The College of Science seeks to be one of the leading higher education institutions at Tikrit University in the field of modern education and scientific research through its scientific, research and administrative activities. It also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of teaching and learning living languages.

2. Program Mission

Working to prepare and graduate pioneering scientific and leadership competencies in the sciences and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively.

3. Program Objectives

The curriculum is a basic applied curriculum that enables the student to learn comprehensive information about the geology of Iraq in all its details and apply it in the field through field trips. It is complementary to the study of sedimentology and stratigraphy that the student studies in other classes.

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	90	90		Major decided

College Requirements	**Yes**			
Department Requirements	**Yes**			
Summer Training	**Found**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
2023-2024/Third	Geo233	**Stratigraphy**	**theoretical**	**Practical**

8. Expected learning outcomes of the program

Knowledge	
Learning Outcomes 1	1- Provide an overview of stratigraphy. 2- Understand the importance of this science in geology. 3- Identify the types of strata found in the field. 4- Distinguish geological formations
Skills	
Learning Outcomes 2	1- After completing this course, the student will be able to identify the types of geological strata and the rock characteristics, whether they are chemical sedimentary, clastic sedimentary, igneous, or metamorphic. 2- Identify the rock stratigraphic units (group, formation, member, and layer) in the field based on the physical characteristics visible to the eye. 3- Identify the types of biostratigraphic units and the types of chronostratigraphic units.
Learning Outcomes 3	Developing students' ability to share ideas
Ethics	
Learning Outcomes 4	Developing students' abilities to understand the subject and develop their scientific abilities in the geology of Iraq
Learning Outcomes 5	Learning Outcomes Statement 5

9. Teaching and Learning Strategies

Lecture delivery method:
2- Student groups (Team Project).
3- Standard method.
4- Practical lectures

10. Evaluation methods

Weekly, monthly, daily and end of semester exams.

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor Dr.	Geology	Stratigraphy & paleontology			angel	

Professional Development

Mentoring new faculty members

Briefly describes the process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level.

Professional development of faculty members

Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program

1.Buday, T., 1980: The Regional Geology of Iraq: Stratigraphy and Paleogeography

2- Stratigraphy and Sedimentology Book

State briefly the sources of information about the program.

14.Program Development Plan

Including topics that are in line with modernity and the requirements of scientific and practical life, and what scientists have reached, on an ongoing basis.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024/Second	Geo233	Stratigraphy	Basic												

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Quaternary era
2. Course Code:
Geo222
3. Semester / Year:
First/Second course
4. Description Preparation Date:
14/11/2024
5. Available Attendance Forms:
Attendance only
6. Number of Credit Hours (Total) / Number of Units (Total)
60 semester hours. 4 hours weekly
7. Course administrator's name (mention all, if more than one name)
Name: Prof.Dr. Faris N. Hassan Email: faris77@tu.edu.iq
8. Course Objectives

Course Objectives	**This aims to determine the relative age of rocks, interpret the anci environment, determine the geographical extent of the layers, and st the history of tectonic events.**

9. Teaching and Learning Strategies

Strategy	11- Lecture delivery method. 2- Student groups (Team Project). 3- Standard method. 4- Practical lectures.

10. Course Structure

.1

Evaluation method	Learning method	Unit or subject name	Week
2	2	An introduction to stratigraphy and the role of scientists in developing this science.	First
2	2	Stratification and lithostratigraphic units	Second
2	2	Classification of lithostratigraphic units	Third
2	2	Naming lithostratigraphic units	Fourth
2	2	Steps used to create a lithostratigraphic unit	Fifth
2	2	Methods for matching lithostratigraphic units	Sixth

2	2	Biostratigraphic Units	Seventh
2	2	Types of Biostratigraphic Units and Correspondence	Eighth
2	2	Immanent Stratigraphic Units	Ninth
2	2	Magnetic Stratigraphic Units, Field Reversal	Tenth
2	2	Evidence and Magnetic Susceptibility Biogroups and Geographic Distribution of Organisms	Eleventh
2	2	Vertical and Horizontal Stratigraphic Relationships	Twelfth
2	2	Facies and Facies Maps	Thirteenth
2	2	Surface and Subsurface Stratigraphic Studies	Fourteenth
2	2	Theoretical and Practical Examination	Fifteenth

11.Course Evaluation

Distribution as follows: 35 theoretical marks for monthly and daily exams, 15% practical marks for reports and an exam, total 50%. Final exam mark 50%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Stratigraphy and Sedimentology -2
Main references (sources)	0
Recommended books and references (scientific journals, reports...)	.Buday, T., 1980: The Regional Geology of Iraq: Stratigraphy and Paleogeography, Dar Al-Kutub Publ. House, Mosul, 445p.
Electronic References, Websites	

Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
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Academic Program and Course Description Guide

2024

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

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

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

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must

determine the learning outcomes of each course in a way that achieves the objectives of the program.

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

Academic Program Description Form

University Name: ...Tikrit.....
Faculty/Institute: .....College of Science.....
Scientific Department: .....Applied Geology .....
Academic or Professional Program Name: ..Geology.....
Final Certificate Name: .....Bachelor in Geology.....
Academic System: …Semsters……
Description Preparation Date: 5-10-2024
File Completion Date: 14-5-2025

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature:

Approval of the Dean

1. **Program Vision**
The Department of Geosciences adopts as its goal to become a nationally recognized leader in integrating research excellence and education in applied geology. In research, we strive to sustain and grow a resource platform that

continues to enable our scientists to contribute at high levels to internationally significant research problems in geology. In education, we strive to provide students with opportunities to discover and develop relevant knowledge and skill sets that will enable them to achieve their professional goals. We believe that creative integration of research with education will promote excellence in both. We will create undergraduate programs that attract students from across nation and prepares them for professional careers, and we will become a significant component of foundational education at Tikrit University**.**

2. Program Mission

The Department of Applied Geology at Tikrit University creates and disseminates knowledge about Earth's processes and properties for students, scientists, and the public to help create a scientifically informed community. We provide high quality educational opportunities for students seeking PhD, MS, and BS degrees in core strength areas within Applied Geology, and bring earth science principles to the foundational education mission of the university. In all programs, we enable students to discover and develop relevant knowledge and skillsets so that they can achieve their professional goals and pursue solutions to resource and environmental challenges facing the state, nation, and world. We welcome motivated individuals who are passionate about science, value diversity and tolerance, and believe in wise stewardship of our planet through critical thinking and dialogue.

3. Program Objectives

1. Prepare students for professional careers in natural resources or environmental sciences, graduate school for advanced studies, or any future where scientific thinking is used. The four degree track options are geology, geophysics, hydrology, and secondary education.
2. Prepare students for successful scientific, technical or management careers in the geosciences or related fields
3. Provide employers with a well-educated workforce that is ready and able to perform valuable scientific, technical or managerial services immediately after graduation
4. Encourage the growth of knowledge-based industry and stimulate economic growth in Iraq.
5. Acquire advanced knowledge of geology and earth system science in addition to their major area of study area
6. Acquire advanced knowledge of hydrology and earth system science in addition to their major area of study area.

4. Program Accreditation

No

5. Other external influences

No

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements				
College Requirements				
Department Requirements				
Summer Training	**Yes**			
Other				

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
Third		**Rock Geochemistry**	**2**	**2**

8. Expected learning outcomes of the program

Knowledge

1. Recognizing the distribution of elements in the different types of rocks.
2. Understand the behavior of elements in the sedimentary environment.
3. Understanding the main factors controlling the weathering of minerals.
4. Understanding the chemical weathering process and their effects on rocks.

Skills

Identify the mineral and chemical composition of the igneous, metamorphic, and sedimentary rocks.	
Determining the provenance of the sedimentary rocks.	

Ethics

9. Teaching and Learning Strategies

1. Class lecture
2. Laboratory
3. Tutorial

5. Assignments

10. Evaluation methods

Examinations (Oral and written).

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Geology	Geochemistry			1	
Assistant Professor	Geology	Geochemistry			1	

Professional Development

Mentoring new faculty members

Professional development of faculty members

12.Acceptance Criterion

The admission is subjected to Ministry of Higher Education and Scientific Research rules.

13.The most important sources of information about the program

Journals, Review articles, Books

14.Program Development Plan

We plan to have a new devices for analysis such as XRD, XRF, and ICP-MS

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Third		Geochemistry	Basic		√			√				√			

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:
Rock Geochemistry
2. Course Code:
3. Semester / Year:
Semester
4. Description Preparation Date:
14-2-2024
5. Available Attendance Forms:
Attendance only
6. Number of Credit Hours (Total) / Number of Units (Total)
60hours/ 4 hours per week
7. Course administrator's name (mention all, if more than one name)
Name: Mohamed W. Alkhafaji Email: mohamedajeel@tu.edu.iq Tahir Mahmood Taha Tahir.mahmood@tu.edu.iq
8. Course Objectives

Course Objectives	1. Rock analyses can identify the tectonic origin of bedrock, which helps geoscientists to interpret regional geology and define mineral potential. 2. Analyses of rocks collected from mineralized bedrock or float can reveal economic concentrations of metals. 3. Geochemical analyses can show whether mineralizing fluids have altered rock composition. Such alteration can be associated with economic mineral deposits. 4. Analyses of soil, till, and stream or lake sediments can indicate geochemical anomalies caused by mineralization in nearby bedrock.

9. Teaching and Learning Strategies

Strategy	1. Class lecture 2. Laboratory 3. Quiz 4. Tutorial 5. Assignments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	4	Review about the minerals and rock	Introduction	Class Lecture	Oral or written examina
2	4	Geochemistry of igneous rocks Pha rule- one compone	Igneous rocks-1	Class Lecture	Oral or written examina
3	4	Phase rule- two component	Igneous rocks-2	Class Lecture	Oral or written examina
4	4	Distribution of elem in igneous rocks	Composition of igneo rocks	Class Lecture	Oral or written examina
5	4	Behaviors of major trace elements duri partial melting an crystallization of m	Partial melting and Crystallization	Class Lecture	Oral or written examina
6	4	The factors controlling the distribution of elements in igneo rocks	Goldschmidt rules	Class Lecture	Oral or written examina
7	4	Mid-term Examinat	-		Written examination
8	4	Element group such as volatil elements-semi volatile elements.	Geochemical perio table	Class Lecture	Oral or written examina
9	4	Geochemistry c metamorphic roc	Metamorphic Rocks-1	Class Lecture	Oral or written examina
10	4	Type of weatherin	Sedimentary Rocks	Class Lecture	Oral or written examina
11	4	Processes of Chemi weathering	Chemical weatherin	Class Lecture	Oral or written examina
12	4	Ionic potential and	The factors controlling distribution of element sedimentary rocks-1	Class Lecture	Oral or written examina
13	4	Eh	The factors controlling distribution of element sedimentary rocks-2	Class Lecture	Oral or written examina
14	4	Distribution of elem In s sedimentary roc	Elements in sedimentary rock	Class Lecture	Oral or written examina
15	4	Generation, types, a importance of collo	Colloids	Class Lecture	Oral or written examina

11.Course Evaluation

Daily preparation… 10
Oral examination…10
Reports…10
Written Examination..10
Practical…10
Final Examination……50

12.Learning and Teaching Resources

Required textbooks (curricular books, any)	Geochemistry
Main references (sources)	Introduction to Geochemistry
Recommended books and references (scientific journals, reports...)	Journal of Sedimentary Geology Geochemica et Cosmochemica acta
Electronic References, Websites	https://www.sciencedirect.com/topics/chemistry/geochemi

Ministry Higher Education and Scientific Research
Scientific Supervision and Evaluation Authority
circleQuality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2024

The Introduction:

The educational program is a coordinated and organized package of courses that include procedures and experiences organized in the form of study vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs, such as the external examiner program.

The academic program description provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone in obtaining program accreditation, and the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments and changes in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, semester) in addition to adopting the description of the academic program circulated pursuant to the letter of the Department of Studies TM3/2906 dated 5/3/2023 regarding programs that adopt the Bologna process as a basis for their work.

In this regard, we cannot but emphasize the importance of writing a description of academic programs and courses to ensure the smooth running of the educational process.

Concepts and terms:

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

Course Description:Provides a concise summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether the student has made the most of the learning opportunities available. It is derived from the programme description.

Program vision: An ambitious vision for the future of the academic program to be an advanced, inspiring, motivating, realistic and applicable program.

Program message: It briefly explains the objectives and the activities required to achieve them, and it also identifies the paths and directions of the programme's development.

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

Curriculum structure: All courses/subjects included in the academic program according to the approved learning system (semester, year, Bologna track) whether they are required (ministry, university, college and scientific department) with the number of academic units.

Learning outcomes:A compatible set of knowledge, skills and values acquired by the student after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the program's objectives.

Teaching and learning strategies: It is the strategies used by the faculty member to develop the teaching and learning of the student and they are plans that are followed to reach the learning objectives. That is, it describes all the classroom and extracurricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: University of Tikrit
College/Institute: College of Science
Department: Department of Earth Sciences
Academic or Professional Program Title: Bachelor of Applied Earth Sciences
Final Degree Title: Bachelor of Applied Earth Sciences
Academic System: Semester
Description Preparation Date: 10/5/2023
File Completion Date:14/5/2025

the signature :
Scientific Assistant Name:
the date :

the signature :
Name of the Department Head:
the date :

Check the file before
Quality Assurance and University Performance Division
Name of the Director of the Quality Assurance and University Performance Division:
the date
the signature

Dean's approval

1. **Program vision**
Seekingcollege the sciencesTo be one of the leading higher education institutions inuniversity TikritIn the field

of modern education and scientific research through its scientific, research and administrative activities, it also works to provide an integrated path for its students and professors to make them active and creative in serving the community in the fields of education.the sciencesSnake and its education.

2. Program message

Working on preparing and graduating pioneering scientific and leadership competencies inthe sciencesAnd its sciences and literature, and in developing the knowledge base in the field of scientific research to serve the local, regional and international community, in addition to training and refining the minds of students scientifically and cognitively, emphasizing social and cultural values and responding to the requirements of the local market.

3. Program objectives

1. **Embodying vision, mission and goalsuniversity TikritAnd applying the best educational practices with a focus on ensuring and enhancing quality and performance.**
2. **Preparing specialized cadres capable of serving the community and preparing for future specializations.**
3. **Disseminating the culture of human diversity in society, transferring knowledge and linguistic skills, writing academic research and creative scientific achievement through activities that focus on the student and the teacher.**
4. **The college seeks to conclude scientific and cultural cooperation agreements with similar colleges and departments in different colleges to achieve the best practices in the fields of education.**
5. **Focusing on the educational and moral aspects of all its members and spreading the spirit of dedication, tolerance, commitment and work to serve the nation.**
6. **Interest in intellectual and cultural development through openness to the experiences of other countries in the fields ofVarious sciences.**

Focus on the educational and moral side of the student and instill a spirit of dedication, tolerance and commitment.

4. Programmatic accreditation

nothing

5. Other external influences

nothing

6. Program Structure

comments *	percentage	Study unit	Number of courses	Program Structure
Basic course		90	90	**Institutional Requirements**
			Yes	**College Requirements**
			Yes	**Department Requirements**
			nothing	**Summer training**
				Other

* Notes may include whether the course is basic or optional.

7. Program Description

Credit hours		Course name	Course code	Year/Level
Partical	**theoretical**	Computer		2024-2025 the first class

8. Expected learning outcomes of the program

Knowledge	
	Informing students about the importance of computer science and software theories, their uses, and their significance in society.
Skills	
	Expanding computer and typing skills and applying them in daily uses
Values	

	Developing students' ability to participate
	Disclosing one's thoughts and feelings about life matters, including the scientific material in computer science.

9. Teaching and learning strategies

Explain the scientific material using colored pens, a blackboard, various educational tools, and practical applications on computers in the science department's laboratories.

2. Write a review paper for each computer application, such as Word and Excel, summarizing the most important ideas presented during the lectures.

3. Link the explanation and discussion from the previous lecture to the new lecture.

10. Evaluation methods

Weekly, monthly, daily and end of year exams.

11. Faculty

Faculty members

Faculty preparation		Special requirements/skills (if any)		Specialization		Academic Rank
	Staff			**private**	**general**	
	Staff			numerical analysis	mathematics	Teacher

Professional development

Orientation of new faculty members

Professional development for faculty members

12. **Acceptance Criteria**

13. **The most important sources of information about the program**
Computer Basics Course (2023) A&M for Digital Service ttps://www.youtube.com/watch?v=aQp1lt5NHsE https://harmash.com/tutorials/computer-fundamentals/functions-and-advantages

14. Program development plan
1 -A comparative study of computer science software types and how to leverage these application methods in everyday life. 2- Working to enhance students' skills in computer applications such as Word, Excel, and PowerPoint.

Program Skills Chart

Required learning outcomes of the program															
Values				**Skills**				**Knowledge**				**Essential or optional?**	**Course name**	**Course code**	**Year/Level**
A4	**A3**	**A2**	**A1**	**B4**	**B3**	**B2**	**B1**	**A4**	**A3**	**A2**	**A1**				
												essential	Computer		2024-2025

- **Please tick the boxes corresponding to the individual learning outcomes of the programme being assessed.**

Course Description Form

1. Course name:computer	
Woord- exel- powerpoint	
2. Course code:	
3. Semester/Year: Annual	
Semester system	
4. Date this description was prepared: / 2025/5/14	
5. Available attendance forms:	
In-person only	
6. Number of study hours (total) / Number of units (total):	
78One hour per year.2One hour per week	
7. Name of the course administrator (if more than one name is mentioned)	
The name: Mr. Zineb Hassan Ahmed Email:Zahmed@edu.tu.iq	
8. Course objectives	
• ..... • ..... •	1- Providing students with the skill of application.Statistics and its use in everyday life 2- Skill expansionStatistical analysis

	application 3-clarification Most important Types of statistics, methods and uses

9. Teaching and learning strategies

1 -Providing students with the skills to apply computer programming knowledge and use it in everyday life. 2 -Expanding reading skills to practical application skills. 3- Explaining the most important modern ideas in computer science, th methods, and uses.	**Strategy**

10. Course structure

Evaluation method	**Learning method**	**Name of the unit or topic**	**Required learning outcomes**	**Watches**	**The week**
AFor weekly, monthly , daily, written and end-of-year exams.	Explain the scientific material from the blackboard and provide key examples. 2 .Write a review paper for	English Victor Poetry	Explain the scientific material from the blackboard and provide key examples. 2 .Write a review paper for each computer science program	2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour	1 2 3 4 5 6 7 8 9 10

	each computer science program summarizing the most important methods presented during the lectures. 3. L computer science id and applications that ben students.		summarizing the most important methods presented during the lectures. 3. Link computer science ideas and applications that benefit students.	2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour 2hour	11 12 13 14 15 vacatio 16 17 18 19 19 20 21 22 23 24 25 26 27 28 29 30
11. Course Evaluation					
distributionAs follows: 25 marks for monthly and daily exams for the first semester. 25 marks					

for monthly and daily exams for the second semester. 50 marks for final exams	
12. Learning and teaching resources	
Computer Science Book	Required textbooks (methodology if any)
	Main References (Sources)
. . .	Recommended supporting books and references (scientific journals, reports, etc.)
https://www.youtube.com/watch?v=J6aT0aTP_H8 https://harmash.com/tutorials/computer-fundamentals/functions-and-advantages	Electronic references, websites

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