Academic Program Description Form

University Name: Diyala

Faculty/Institute: Engineering

Scientific Department: Materials engineering

Academic or Professional Program Name: Bachelor of Materials engineering

Final Certificate Name: Bachelor of Materials engineering

Academic System: course

Description Preparation Date: 24-6-2024

File Completion Date: 24-6-2024

Signature:

Head of Department Name: Suha K. Shihab

Date: 25/6/2024

Signature:

Scientific Associate Name: Jabbar Gatimah

Date: 25/6/2024

The file is checked by: Salah N. Farhan

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 25/6/2024

Signature:

Approval of the Dean

Prof. Dr. Anees A. Khadom

Course: Ferrous Material Extraction

1. Program Vision

.Preparing and qualifying engineers specialized in materials engineering sciences through diversification in learning and teaching methods and training students to apply the acquired knowledge and skills to solve real-life problems.

.The department seeks to provide distinguished academic programs in the field of materials engineering sciences in both theoretical and applied aspects that comply with international standards of academic quality.

.Encouraging and developing scientific research in the fields of materials engineering in terms of design, manufacturing and selection of materials, which include metal, ceramic, polymeric, composite materials, in addition to recycling and manufacturing materials .

Providing a stimulating environment for faculty members to develop their educational and research capabilities and skills.

The department strives to improve the teaching staff by sending the department's affiliates for postgraduate studies inside and outside the country and creating the appropriate conditions for scientific research in order to obtain the required degrees. Providing students with the ability to self-learning, personal development and work in the field

In groups

2. Program Mission

3. Program Objectives

4. Program Accreditation

5. Other external influences

6. Program

هيكل البرنامج	عدد المقررات	وحدة دراسية	النسبة المئوية	ملاحظات *
متطلبات المؤسسة	5	6	4.24 %	
متطلبات الكلية	9	20	14.20 %	

				متطلبات القسم
Graduation Requirements	-	-	-	**التدريب الصيفي**
				أخرى

7. Program Description				
Credit Hours		*Course Name*	*Course Code*	*Year/Level*
	Theoretical ***only***	***Extraction of ferrous materials***		Third

8. Expected Learning Outcomes of the Program	
	Knowledge
- During the academic year, the student learns an idea of what mineral materials are and the main principles of extraction science. ***- Learn and understand the classifications of ferrous metal materials and the features of each classification.*** ***- Learn and understand the methods of extracting ferrous metals and the advantages of each method from the other.***	*Learning outcomes 1, 2 and 3*
– Organize the work well and avoid chaos that does not lead to harvesting its fruits. ***- Monitor work by providing a good system of supervision.***	*Skills*
	Values
Attention: Arousing the attention of students by implementing one of the applied programs on the display screen in the hall. Response: Follow up the student's interaction with the material displayed on the screen - Attention: Follow up the interest of the student who interacted more with the displayed material, by increasing this interaction by requesting other programs and applications to display it. - Formation of direction: meaning that the student is sympathetic to the presentation and may have an opinion towards the topic presented and defend it. - The formation of value behavior: in the sense that the student reaches the top of the emotional ladder so that he has a fixed level in the lesson and does not laze or fidget	*Learning Outcomes 4*
- Attention: Arousing the attention of students by implementing one of the applied programs on the display screen in the hall . - Response: Follow up on the student's interaction with the material displayed on the screen.	*Learning Outcomes 5*

- Interest: Follow up the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. - Formation of direction: meaning that the student is sympathetic to the presentation and may have an opinion towards the topic presented and defend it. C5- Formation of value behavior: meaning that the student reaches the top of the emotional ladder, so he has a fixed level in the lesson and does not laze or fidget	

9. Teaching and learning strategies

The usual theoretical presentation method using the writing board and depending on the style (how and why) of the subject and according to the teaching curriculum of the subject.

• The theoretical presentation method using the (data show) device and depending on the method (how and why) of the subject and according to the teaching curriculum of the material.

• Laboratory presentation method using special devices to measure the different properties of the material under experiment

10. Evaluation methods

Direct questions in a manner (how and why) of the topic during the theoretical and practical lecture.

• Sudden exams during the theoretical lecture.

• Semester exams for the theoretical side.

• Final exams for the theoretical side.

d. General and qualifying skills transferred (other skills related to employability and personal development).

D1- Developing the student's ability to perform duties and deliver them on time.

D2- Logical and programmatic thinking to find software solutions to various problems.

D3- Developing the student's ability to dialogue and discussion.

D4- Developing the student's ability to deal with modern technology, especially the Internet.

11. Faculty

Faculty Members

Preparation of the	Special	Specialization	Academic Rank

teaching staff		requirements/skills if any			
lecturer	angel		special	year	
	angel			year	Assistant Lecturer

Professional Development
Orientation of new faculty members
In addition to passing the courses of teaching methods and language safety, the department works on development courses and workshops to prepare and guide new teaching members
Professional development for faculty members
Using learning platforms and electronic methods to display lectures, seminars and reports, display educational videos and conduct lectures accompanied by practical application.

12. Acceptance Criterion

Normal Admission

13. The most important sources of information about the program

None

14. Program Development Plan

It included updating the curriculum and creating the medical materials boards

مخطط مهارات البرنامج															
Learning outcomes required from the program															
القيم				المهارات				المعرفة				اساسي أم اختياري	Course Name	Course Code	Year/Level
4C	3C	2c	1C	4b	3b	2b	1b	A4	A 3	A 2	A 1				
•	•	•	•			•	•		•	•	•	Essential	Extraction of ferrous materials		Third

- **Please tick the boxes corresponding to the individual learning outcomes from the program subject to evaluation**

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Course Description Form

1. Course Name
Extraction of ferrous materials
2. Course Code
3. Semester / Year
Chapter One
4. Date of preparation of the description
9-8-2024
5. Available attendance formats
Came
6. Number of Hours (Total) / Number of Units (Total)
2
7. The name of the course administrator (if more than one name is mentioned
Name : Eng. Wasan Suhail Hussain Email: wasan_hussein_eng@uodiyala.edu.iq
8. Course Objectives

d. General and qualifying skills transferred (other skills related to employability and personal development). D1- Application of mathematical skills in practical problems D2- Skills in oral and written communication, use of information and communicate effectively. D3- Control time and resources and work in one team D4- Ability to design and work in analyzing problems and extracting information from published sources	Course Objectives

9. Teaching and Learning Strategies	
	Strategy

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	Week
Discussion during the lecture	Lectures displayed in Power Point format	Principle and theory of extraction metallurgy	The teacher explains the principles of extraction processes and their importance	2	First Lecture 1
Daily exam	Lectures displayed in PowerPoint format	Principle properties of metals	recognize the properties of metals	2	First Lecture 2
Unannounced discussion and exam	Lectures displayed in PowerPoint format	Classification of metals	Recognize the classification of metal materials and the difference between them	2	Third Lecture3
Daily discussion and exam	Lectures displayed in PowerPoint format	oduction to extraction oaches of metallic materials	Learn about mineral recovery methods	2	Fourth Lecture 4
Monthly exam	Lectures displayed in	Introduction to extraction approaches of ferrous	Identify the mechanism of extraction of ferrous	2	Fifth Lecture 5

	PowerPoint format Reports	metals	materials and its advantages		
Unannounced exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	sical and chemical Properties xtraction techniques	Identify the physical and chemical methods of extraction processes,	2	VI Lecture6
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	gnetic and electrical properties errous metals	Recognize the magnetic and electrical properties of ferrous materials	2	Seventh Lecture 7
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	Characterization and haracterization techniques of xtraction methods	Recognize the characteristics of metal material extraction techniques	2	Eighth Lecture 8
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	Techniques for characterization of extraction processes	Identify the importance and technique of each method	2	IX Lecture9
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	Extraction methods of ferrous metals	Methods of extraction of ferrous materials	2	Lecture 10
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	Synthesis methods for various ferrous metals	Learn about the methods of manufacturing ferrous materials	2	Al-Khadi Ten Lecture 11
Daily exam and	Lectures displayed in PowerPoint	Applications of metals in various fields	Identify the general scientific applications of ferrous materials	2	Twelfth lecture

presentation and discussion of reports	format and reports				12
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	Applications of metals in various fields	Learn about the medical and engineering applications of ferrous materials	2	Thirteenth lecture 13
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	Health risks	Identify the toxic risks of certain metal substances	2	Fourteenth lecture 14
Daily exam and presentation and discussion of reports	Lectures displayed in PowerPoint format and reports	Safety issues	Learn how to prevent the risks of dealing with some materials used in extraction processes	2	Fifteenth Lecture15

11. Course Evaluation	
Daily preparation score and attendance5% Daily exam score 10% Monthly exam score 20% Seminar and reporting score 5%	
12. Learning and Teaching Resources	
	Required textbooks (methodology, if any)
1. J. D. Gilchrist, "Extraction metallurgy", 2nd edition, Pergamon press Ltd, 1. 2. Fath: habashi, " Hand Book of extractive metallurgy 4volumes, Wily-VCH company.	Main references (sources)
	Recommended supporting books and references (journals, reports..)
	Electronic References, Websites