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

Academic Program and Course Description Guide

2024

Academic Program Description Form

Name: Babylon University

Faculty/Institute: College of Materials Engineering

Scientific Department: Department of Polymer Engineering &Petrochemical Industry

Academic a Professional Program Name: Department of Polymer Engineering &Petrochemical Industry

Final Certificate Name: Bachelor

Academic System: Bologna Process

Description Preparation Date: 2025/3/

Completion Date: 2025/3/

Signature:

Head of Department Name:

Dr. Ammar Emad Kazem Jaber Al-Kawaz

Date: 2025/3/

Signature:

Scientific Associate Name:

Dr. Auda Jabbar Braihi Hasson

Date: 2025/3/

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

Prof. Dr. Abdul Raheem K. Abid

1. Program Vision

The department of polymer and petrochemical industries aims to create new branch specializes with polymer material engineering, composite material engineering, rubber engineering and petrochemical engineering. On the other hand, the majored of students in high studies is carried out at the same scientific branches.

2. Program Mission

The department of polymer engineering and petrochemical industries is concerned with (polymers, composites, rubber, oil, petrochemical industries, other materials as metals and their alloys) in order to supply the traditional engineering study with design and selection of engineering materials as well as manufacturing and innovation according to modern techniques which proportionate with (easiness of production, availability, low cost) of polymers. This department qualifies the graduates for scientific research as well as imparts them skills for working in factories and laboratories of engineering material identification and inspection.

3. Program Objectives

1- Preparing competent and qualified engineers to work in the various engineering and industrial sectors
2- Preparing engineers capable of working in the formations of the Ministry of Industry and Minerals
3- Supplying the surrounding factories and laboratories with qualified engineers, such as the Babylon tire and medical syringe factory
4- Can work as consultants and examiners for various polymeric and petroleum materials
5-Preparing qualified engineers to work in the petrochemical and oil industries

4. Program Accreditation

There is a presentation in order to obtain program accreditation

5. Other external influences

1-visits in fieldwork
2-the experimental part
3-scientific consulting
4-Lbraries and Internet network
5-podiums of social media
6-the need of work market

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Enterprise requirements	11	17	10%	___
Department requirements	53	158	90%	___
summer training	1	___	___	___
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
level UGI / Semester one	POLY1111	Mathematics	5	0
level UGI / Semester one	POLY1112	Engineering Mechanics/Static	4	0
level UGI / Semester one	POLY1113	Engineering Drawing	1	5
level UGI / Semester one	POLY1114	Petroleum Chemistry	2	2

level UGI / Semester one	POLY1105	Principles of Materials Science	2	2
level UGI / Semester one	UOBAB1104	Democracy and human rights	2	0
level UGI / Semester one	UOBAB1102	Arabic Language I	2	0
level UGI / Semester two	POLY1201	Manufacturing Processes	2	4
level UGI / Semester two	POLY2112	Engineering Mechanics/ Dynamic	4	0
level UGI / Semester two	POLY1213	Engineering Drawing by Computer	2	2
level UGI / Semester two	POLY1214	Petroleum Refinery	4	0
level UGI / Semester two	UOBABb4	Computer I	2	2
level UGI / Semester two	UOBABb1101	English Language I	2	0
level UGI / Semester two	POLY1205	Metallurgical Engineering	3	0
level UGI / Semester two	POLY1206	Ceramic Engineering	3	0
level UGII / Semester one	POLY2311	Mathematics- I	4	0
level UGII / Semester one	POLY2312	Strength of Materials - I	4	2
level UGII / Semester one	POLY2303	Petroleum Properties	2	2
level UGII / Semester one	POLY2304	Principles of Chemical Engineering	2	0
level UGII / Semester one	POLY2315	Polymeric Engineering	2	2
level UGII / Semester one	UOBAB2301	Baath Regime Crimes in Iraq	2	0
level UGII / Semester one	UOBAB2004	Computer II	2	2
level UGII / Semester two	POLY2411	Materials Thermodynamics	4	2
level UGII / Semester two	POLY2412	Strength of Materials II	4	2
level UGII / Semester two	POLY2403	Petroleum Products	2	0
level UGII / Semester two	POLY2404	Rubber Technology	2	2
level UGII / Semester two	POLY2405	Materials Physics	4	2
level UGII / Semester two	UOBAB2001	Arabic Language II	2	0
level UGII / Semester two	UOBAB2302	English Language II	2	0

8. Expected learning outcomes of the program

Knowledge	
A. Learning Outcomes 1 Cognitive goals A1- Understand basic engineering concepts A2- Studying the general concepts of engineering in general A3- Studying and knowing the engineering of materials of all kinds and their field of application A4- Focusing on polymeric and rubber materials and their products A5- Knowledge of the basics of petroleum engineering and petrochemical industries A 6-Knowing general priorities about petroleum products	Learning Outcomes Statement 1
Skills	
B.The skills goals special to the programme . B1 - Skill in reading and analyzing all engineering plans and designs	
Learning Outcomes 2	Learning Outcomes Statement 2
Learning Outcomes 3	Learning Outcomes Statement 3
Learning Outcomes 4	Learning Outcomes Statement 4
Learning Outcomes 5	Learning Outcomes Statement 5
B2 - Full knowledge of the properties and uses of materials and their selection for specific applications B3 - Complete knowledge of engineering polymers, petroleum products and products derived from them	
Ethics	
1-Establishing the supreme ethics in society 2-preservation of vocation ethics and work mystery 3-Employment of English language in consolidating national culture 4-accept the favorably aspects in other cultures	

9. Teaching and Learning Strategies

Develop all available human and laboratory resources to teach students and mentally stimulate them in order to increase their scientific and engineering skills.
1- Giving lectures directly to students
2- E-learning by displaying lectures attached to explanatory forms and videos
3- Scientific trips
4- Assigning students to research as seminars and practical scientific research
5- Training in laboratories and factories

10. Evaluation methods

1- Written and oral exams
2- Practical exams
3-Dialogue and direct questions during the lecture time
4- Direct and surprising questions for students

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching st	
	General	Special			Staff	Lecturer
Prof .Najm Abdel Amir Saeed	Production and Metals	Formation of Composite Materials	—	—	✓	—
Prof .Nizar Jawad Hadi	, Mechanical Engineering	Fluids and Rheology	—	—	✓	—
Prof .Ali Abdel Amir Al-Zubaidi	Machinery and Equipment Engineering	Technology and Recycling	—	—	✓	—
Prof Zulfikar Karim Mazal	Materials engineering	Polymer and Composites Engineering	—	—	✓	—
Prof .Auda Jabbar Brahi	Materials engineering	Polymeric materials engineering	—	—	✓	—
Prof. Massar Najm Obaid	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Prof .Hanaa Jawad Kazem Ali	Materials Technologies	Nanotechnology	—	—	✓	—
Prof. Ahmed Fadel Hamza	Materials engineering	Polymeric composite materials	—	—	✓	—
Prof. Saleh Abbas Habib	Chemical Engineering	Nanopolymer technology	—	—	✓	—
Prof. Ammar Imad Kazem	Materials engineering	Nanopolymer technologies	—	—	✓	—
Prof. Israa Ali Hussein	Materials engineering	Polymer composite engineering	—	—	✓	—
Assist. Prof. Ali Salah Hassan	Physics Science	Nanotechnology	—	—	✓	—
Assist. Prof. Hussein Mohammed Salman	Information Technology	Software	—	—	✓	—
Assist. Prof. Muhammad Jawad Hadi	Physics Science	Electro-optics	—	—	✓	—

Lect.Ali Abdel Kazem Hussein	Production engineering	Nanofabrication engineering	—	—	✓	—
Lect.Qasim Ahmed	Laser	Nano technology	—	—	✓	—
Lect.Qusay Adnan Mahdi	Mechanical Engineering	Thermal engineering	—	—	✓	—
Lect.Russul.Muhammad Abd al-Rida	Materials engineering	Composite polymeric materials	—	—	✓	—
Lect.Ola Abdul Hussein Kazem	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Lect.Duaa Abdul Reda Musa	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Lect.Nabil Hassan Hamid	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Assist. Prof. Abeer Adnan Abdel	Materials engineering	Plastics	—	—	✓	—
Assist. Prof. Lina Fadel Kazem	Materials engineering	Composite polymeric materials	—	—	✓	—
Assist. Prof Muhammad Kazem Hamza	Mechanical Engineering	Heat transfer	—	—	✓	—
Lect OhoodHamizaSabr	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Lect Nardine Adnan Berto	Chemistry Science	organic chemistry	—	—	✓	—
Assist. Lect. Nawar Saadi Abdel	Mechanical/power and aviation engineering	Capacity engineering	—	—	✓	—
Zainab Abdel Amir Jodi	Chemical engineering	Oil and gas refining	—	—	✓	—
Assist. Lect. Mustafa Ghanem Hamid Al-Talbi	Materials engineering	Polymer and composite materials	—	—	✓	—

		engineering				
Assist. Lect. Atheer Hussein Mahdi	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Lect. Ban Jawad Kadhim	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Lect. Mustafa Abdal Hussein musfair	Materials engineering	Polymer and composite materials engineering	—	—	✓	—
Lect. Dhay Jawad Muhammad	Materials engineering	Polymer and composite materials engineering	—	—	✓	—

Professional Development

Mentoring new faculty members

1-Guidance the new faculty members through predisposing (symposiums, courses, definitional workshops, validity of teaching of new lectures, working of periodicity meetings) in order to identify them with work contexts.
2-daily guidance and supervising, continuous pursuing, give the dissuading and Guidance, induce on the writing of scientific researches, participation in specialism Conferences for developing their scientific and academic capabilities

Professional development of faculty members

1-providant the required environment and resources for developing the skills Faculty members and consequently reaching to maximum degree of quality in academic performance.
2-the participating in (workshops, continuous teaching sessions, specialism training courses).
3-Development the skills of faculty members in students almanac and depending on effective replacements in that field
3- Development the skills of faculty members by depending on modern technology

And innovation of new replacements in learning and teaching.
4-elevating the level of faculty members (scientific research, vocational training, management, service of society)
5-exchanging the expertise between faculty members in the scientific department and corresponding departments natively and globally.
6-development the numerous managing skills at faculty members like team work or skills of decision take-apart through the academic and managing work.
7-development the skills of faculty members for treating with challenges that faced them during their academic and functional tasks as well as grovels the potential functional difficulties.

12. Acceptance Criterion

The acceptance is Central through direct presentation on the official site of high education and scientific research

13. The most important sources of information about the program

1- Specialized Arabic and foreign sources
2- Scientific and research journals
3- Lectures by international professors
4-the site of high education and scientific research ministry
5-Theelectronic site of (university, college, department).
6-brochur of student .

14. Program Development Plan

1-working due to ministry and university recommendations that related with developing the academic program of department

2-the revision and almanac by periodic scientific commission to the academic program and its recommendations or proposals that built on annual reports of programs and courses descriptions

3-Development the performance of scientific and managing staff in the department

Through files of annual performance almanac that reveals the points of strength and weakness

4-Carrying out the almanac studies that related with developing and improving the performance of department staff and workers

5-attendance of seminars and specialized scientific symposiums.

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
level UGI / Semester one	POLY1111	Mathematics	Basic												
	POLY1112	Engineering Mechanics/Static	Basic												
	POLY1113	Engineering Drawing	Basic												
	POLY1114	Petroleum Chemistry	Basic												
	POLY1105	Principles of Materials Science	Basic												
	UOBAB1104	Democracy and human rights	Basic												
	UOBAB1102	Arabic Language I	Basic												
level UGI / Semester two	POLY1201	Manufacturing Processes	Basic												
	POLY2112	Engineering Mechanics/ Dynamic	Basic												
	POLY1213	Engineering Drawing by computer	Basic												
	POLY1214	Petroleum Refinery	Basic												
	UOBABb4	Computer I	Basic												
	UOBABb1101	English Language I	Basic												
	POLY1205	Metallurgical Engineering	Elective												
	POLY1206	Ceramic Engineering	Elective												
level UGII – Semesterone	POLY2311	Mathematics- I	Basic												
	POLY2312	Strength of Materials - I	Basic												
	POLY2303	Petroleum Properties	Basic												

	POLY2304	Principles of Chemical Engineering	Basic													
	POLY2315	Polymeric Engineering	Basic													
	UOBAB2301	Baath Regime Crimes in Iraq	Basic													
	UOBAB2004	Computer II	Basic													
level UGII – Semester two	POLY2411	Materials Thermodynamics	Basic													
	POLY2412	Strength of Materials II	Basic													
	POLY2403	Petroleum Products	Basic													
	POLY2404	Rubber Technology	Basic													
	POLY2405	Materials Physics	Basic													
	UOBAB2001	Arabic Language II	Basic													
	UOBAB2302	English Language II	Basic													

- **Pleasetickthebo xescorrespondingtotheindividualprogramlearningoutcomesunderevaluation.**

Course Description Form

1. Course Name:
Mathematics
2. Course Code:
POLY1111
3. Semester/Year:
level UGI / Semester one
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6.Number of Credit Hours(Total)/Number of Units(Total)
150/6
7.Courseadministrator's name (mention all ,if more than one name)
Name: Dr. Mohammed Jawadhadi Kadhim Email: mat.mohammed.jawad@uobabylon.edu.iq
8. Course Objectives

Course Objectives	1. Defining the student, the derivative of trigonometric, trigonometric inverse, exponential, hyperbolic, and logarithm functions 2. To make the student to understand the basics of derivative for all the functions. 3. To equip the students to have a knowledge on different types of the limits 4. To familiarize the students with the theory of integration for all functions. 5. To learn the students the fundamental of the types of methods of integration.

9. Teaching and Learning Strategies

Strategy	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	150	It was mentioned in the program	Mathematics	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Engineering Mechanics/Static
2. Course Code:
POLY1112
3. Semester/Year:
level UGI / Semester one
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
Weekly

6.Number of Credit Hours (Total)/Number of Units(Total)
150/ 6

7.Courseadministrator's name (mention all ,if more than one name)
Name: Nabeel H. Al-Mutairi (Ph.D.) Email: mat.nabeel.msc@uobabylon.edu.iq

8. Course Objectives

Course Objectives	This course is designed for undergraduate students to 1. To provide definition of force and moment vectors and give necessary vector algebra 2. To explain the concept of equilibrium of particles and rigid bodies in plane and 3D space 3. To give information about support types and to give ability to calculate support reactions 4. To explain the equilibrium of structures and internal forces in trusses, and frames 5. To give information about distributed loads 6. To provide information on moment of inertia 7. To explain virtual work concept.

9. Teaching and Learning Strategies

Strategy	• **Formal Contact Hours** 1. The formal learning activities are a combination of lecture and tutorial style formats. For example, new material will be presented and supported by problem solving exercises (formative assessment) to be completed by students. Students will benefit from participation in the interactive environment during formal contact times. 2. In addition, the entire lecture will be published in an electronic form on the website of Polymer and Petrochemical Department. • **Assessments Methods** **1.** Discussions **2.** Homework **3.** Quizzes **4.** Monthly Exams

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	150	It was mentioned in the program	Engineering Mechanics/Static	It was mentioned in the program	It was mentioned in the program

1. Course Name:

Engineering Drawing I

2. Course Code:

POLY1113

3. Semester/Year:

level UGI / Semester one

4. Description Preparation Date:

16/4/2024

5.AvailableAttendanceForms:

Weekly

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

150/6

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

Name: Mohammed Kadhim Hamza
Email: Muham_e888@uobabylon.edu.iq

8. Course Objectives

Course Objectives	**1- Introduce the student to the general princi les o** **2-Learn about drawing tools and types of fon s** **3- Teaching the student engineering operatio s and** **4-Engineering The student acquires the skill f dra information necessary to describe the real sha pe by** **5- The student acquires the skill of drawing t e iso**

9. Teaching and Learning Strategies

Strategy	1-The method of delivering the lecture and includes the following bases (introduction and introduction to the lesson, presentation of the material in a sequential and coherent presentation). 2-The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3-Publishing electronic lectures on the University of Babylon website

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	150	It was mentioned in the program	Engineering Drawing I	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Petroleum Chemistry
2. Course Code:
POLY1114
3. Semester/Year:
level UGI / Semester one
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
100/4
7.Courseadministrator's name (mention all, if more than one name)
Name: Nardeen Adnan Email: mat.albakry.nardeen@uobabylon.edu.iq

8. Course Objectives	
1	Knowledge of types of chemical bonds, Functional Groups. • Define Paraffin, Napthenes, Asphaltics, Aromatics, Non-hydrocarbons, Brine water. • Knowledge of their properties and stability. • Recognition of petroleum types. • Knowledge of Petroleum contents .

9. Teaching and Learning Strategies	
Strategy	Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	100	It was mentioned in the program	Petroleum Chemistry	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Principles of Materials Science
2. Course Code:
POLY1105
3. Semester/Year:
level UGI / Semester one
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
100/4
7.Courseadministrator's name (mention all ,if more than one name)
Name: OHOODH.SABR Email: Mat.ehood.h@uobabylon.edu.iq
8. Course Objectives

	1. Introducing the student to materials science 2. Introducing the student to the types of engineering materials and their classification 3. The student's knowledge of the atomic structure of materials 4. Identify the types of bonds that bind molecules. 5. Acquiring a skill in understanding the types of defects in solid materials.
9. Teaching and Learning Strategies	

Strategy	Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	100	It was mentioned in the program	Principles of Materials Science	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Democracy and human rights
2. Course Code:
UOBAB1104
3. Semester/Year:
level UGI / Semester one
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
50/2
7.Courseadministrator's name (mention all ,if more than one name)
Name: Mustafa Akeel Hamied Email: mat.mustafa.akeel@uobabylon.edu.iq

8. Course Objectives

1.تعليم الطلاب والطالبات مبادئ حقوق .
2.تنمية الطلاب من الناحية القانونية فيما يتعلق بمبادئ حقوق الانسان والحرية والديمقراطية.
3.التعرف على الحقوق والحريات التي نصوص الدستور العراقي النافذ لسنة2005.
4.صقل الموهبة الفكرية والقانونية للطلبة.
5.تشكيل رؤية متكاملة عن مفهوم الديمقراطية وتطورها التاريخي..

9. Teaching and Learning Strategies

Strategy	
	طرائق التعليم والتعلم 1- المحاضرة 2- المناقشة 3- العصف الذهني **طرائق التقييم** 1. أسئلة واجوبة 2. امتحانات شهرية 3. اعداد الامتحان االمفاجئة المسماة بـ Guizes 4. الإجابة على الأسئلة 5. الامتحانات الشفهية والشهرية 6. القاء المحاضرة

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	50	It was mentioned in the program	Democracy and human rights	It was mentioned in the program	It was mentioned in the program

1. Course Name:

Arabic Language I

2. Course Code:

UOBAB1102

3. Semester/Year:

level UGI / Semester one

4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
50/2
7.Courseadministrator's name (mention all, if more than one name)
Name: Hiba Mohammed Sagban Email: eng730.hiba.mohammed@uobabylon.edu.iq

8. Course Objectives	
	1- تقويةالقدرةاللغويةلدىالطلبة. 2- اكتسابهم مهارة التعبير الصحيح. 3- تعويد الطلاب على فهم المادة المقروءة؛ والتعبير الصحيح. 4- تنمية قدرات الطلاب ومهاراتهم الخطية والاملائية فضلا عن اطلاعه على الارث الادبي. 5- تنمية قدرات الطلاب ومهاراتهم الفكرية والابداعية والقدرة على التعبير عن الواقع بأسلوب ادبي رفيع.

9. Teaching and Learning Strategies	
Strategy	يتم اتباع اسلوب المناقشة، وطريقة المحاضرة. علاوة على الطريقة الاستنتاجية من خلال طرح المشكلات واستنتاج الحلول. بالإضافة الى الطريقة القياسية المبنية على طرح قاعدة عامة واعطاء الامثلة.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	50	It was mentioned in the program	Arabic Language	It was mentioned in the program	It was mentioned in the program

1. Course Name
Manufacturing Process
2. Course Code:

POLY1201
3. Semester/Year:
level UGI / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/5
7.Courseadministrator's name (mention all, if more than one name)
Name: Assist Prof. Dr. Lina Fadhil Kadhim E-mail: mat.lina.fadhil@uobabylon.edu.iq

8. Course Objectives	
Course Objectives	1-Identification the student about various production methods of materials (polymer, metal, ceramic….) 2. knowledge of the effect of process variables on the mechanical properties of materials 3-the student will know the basic differences between manufacturing processes with respect to state of material (solid, liquid, solid powder, heat soften dough) 4-knowledge of the basic differences between machining, casting, joining and forming 5-acquire a skill in engineering design for knowledge the proper manufacturing process for each product &application 6-the student will know the various manufacturing process (hot, cold, conventional or nonconventional.

9. Teaching and Learning Strategies	
Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the lectures and expanding their skills of thinking. This will be achieved through theoretical lectures and laboratory experiments as well as classes activities. Teaching and Learning Methods 1- The method of delivering the lecture 2- The method of discussion, i.e. (making the student the center of effectiveness

	instead of teaching). 3- Publishing electronic lectures on the Babylon University cite 4- Classroom discussion during the lecture. 5- The sudden exam as well as (oral, monthly and final) examinations to assess the level of students intelligence

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Manufacturing Process	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Engineering Mechanics-Dynamics
2. Course Code:
POLY2112
3. Semester/Year:
level UGI / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/ 5
7.Courseadministrator's name (mention all ,if more than one name)
Name: Nabeel H. Al-Mutairi (Ph.D.) Email: mat.nabeel.msc@uobabylon.edu.iq
8. Course Objectives

Course Objectives	This course is designed for undergraduate students to 8. Develop an understanding of particle and planar rigid body kinematics and kinetics. Obtain an understanding of Newton's Laws of Motion. 9. gain the ability to apply energy and momentum methods to particles and rigid Bodies in planar motion.

9. Teaching and Learning Strategies	
Strategy	**Formal Contact Hours** 1. The formal learning activities are a combination of lecture and tutorial style formats. For example, new material will be presented and supported by problem solving exercises (formative assessment) to be completed by students. Students will benefit from participation in the interactive environment during formal contact times. 2. In addition, the entire lecture will be published in an electronic form on the website of Polymer and Petrochemical Department.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Engineering Mechanics-Dynamics	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Engineering Drawing by Computer
2. Course Code:
POLY1213
3. Semester/Year:
level UGI / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
Weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
100/4
7.Courseadministrator's name (mention all, if more than one name)
Name:E mail: Nawar S. A. Bakly nawarbakly@uobabylon.edu.iq

8. Course Objectives	
Course Objectives	1. Definition of the concept of engineering drawing. 2. Developing the creative ability to imagine and perceive various geometric shapes.

	3. Gain basic engineering experience for practical practice in the field of engineering drawing. 4. Employing engineering drawing experience in various technical fields. 5. Complete knowledge of isometric drawing methods. Gain the skill in knowing the types of welding and connections.

9. Teaching and Learning Strategies

Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. Teaching and Learning Methods

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	100	It was mentioned in the program	Engineering Drawing by computer	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Petroleum Refinery
2. Course Code:
POLY1214
3. Semester/Year:
level UGI / Semester two
4. Description Preparation Date
16/4/2024
5.AvailableAttendanceForms:
Weekly
6. Number of Credit Hours (Total)/Number of Units (Total):

125/5

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

Name: Prof. Dr. Auda Jabbar Braihi
Email: mat.auda.jabbar@uobabylon.edu.iq
Name: Duaa A. Rida
Email: mat.duaa.abdulreda@uobabylon.edu.iq

8. Course Objectives

Course Objectives	To know the chemical composition of the crude oil. 6. To know how to evaluate the crude oils 7. To know the pre-treatment processes before distillation process. 8. To study the fractionation types (ordinary and vacuum distillation) 9. To know the details of distillation towers (trays and refluxes types)

9. Teaching and Learning Strategies

Strategy	1- Method of delivering lectures directly to students 2- E-learning, to present lectures supported by illustrative films 3- Assigning students to prepare seminars and research

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Petroleum Refinery	It was mentioned in the program	It was mentioned in the program

1. Course Name:

Computer I

2. Course Code:

UOBABb4

3. Semester/Year:

level UGI / Semester two

4. Description Preparation Date

16/4/2024

5.AvailableAttendanceForms:

Weekly

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

75/3

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

Name: Hussein Mohammed Salman
Email: Hus12ms@uobabylon.edu.iq

8. Course Objectives

Course Objectives	1. To develop students skills in the software of computer through training on the operating system and office application system. 2. Understand how to deal with the scientific and engineering problems, and how convert these problems into programs. 3. This course deals with the basic concept of programming language in the computers. 4. Teach the students all the editor of the programming language Quick Basic. 5. Train the student write the codes and programs. 6. Understand the sentences of the data input and output in the specific language.

9. Teaching and Learning Strategies

Strategy	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

10. Course Structure

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

15	75	It was mentioned in the program	Computer	It was mentioned in the program	It was mentioned in the program

1. Course Name:
English Language I
2. Course Code:
UOBABb1101
3. Semester/Year:
level UGI / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
50/2
7.Courseadministrator's name (mention all, if more than one name)
Name: Ali Abdul kadhum Husein Bakly Email: ali.bakly@uobabylon.edu.iq
8. Course Objectives

Course Objectives	• Defining English grammar, such as the tenses that can be used and chosen to prepare sentences or questions. • Acquire knowledge of vocabulary and expressions, whether nouns, pronouns, adjectives, verbs, adverbs, letters, conjunctions, and exclamation marks. • Introducing students to correct reading and writing in the English language through reading passages during lectures and audio reading to familiarize students with the correct pronunciation of words in English. • Gain knowledge of the world of reality through dialogues in English supported by video clips. • Gain professional experience in direct conversation with colleagues.

9. Teaching and Learning Strategies

Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. 1. The method of delivering the lecture by the subject teacher in English and Arabic and includes the following foundations (introduction and prelude to the lesson, presentation of the material as a sequential and coherent presentation). 2. Use of image, video and audio display methods. 3. Publishing electronic lectures on the Babylon University website, arranged in a fixed format for all units.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	50	It was mentioned in the program	English language	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Engineering Metallurgy
2. Course Code:
POLY1205
3. Semester/Year:
level UGI / Semester two
4. Description Preparation Date:
16/04/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):1
100/4
7.Courseadministrator's name (mention all, if more than one name)
Name: Abeer Adnan Abd mail: Mat.abeer.adnan@uobabylon.edu.iq

1. Course Name:
Ceramic Engineering
2. Course Code:
POLY1206
3. Semester/Year:
level UGI / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
100/4
7.Courseadministrator's name (mention all, if more than one name)
Name:Atheer Hussain Mehdi Email: mat.atheer.hussein@uobabylon.edu.iq

8. Course Objectives

Course Objectives	1. The aim of the ceramic engineering module is to provide students with a comprehensive understanding of ceramic materials, their properties, and their applications. 2. The module aims to develop the knowledge and skills required for the design, synthesis, processing, and characterization of ceramic materials. 3. Additionally, the module aims to foster an appreciation for the potential of ceramics in various industries and to instill a strong foundation for further research and development in the field.

9. Teaching and Learning Strategies

Strategy	Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation).

	2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Quizzes 2- Assignments 3- Projects 4- Report 5- Midterm Exam 6- Final Exam

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	100	It was mentioned in the program	Ceramic Engineering	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Mathematic
2. Course Code:
POLY2311
3. Semester / Year:
level UGII / Semester one
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/5
7. 1/2023administrator's name (mention all ,if more than one name)
Name: Dr. Qassim Ahmed Mekheef Email: mat.qassim.mekheef@uobabylon.edu.i
8. Course Objectives

Course Objectives	I. Mathematics in engineering concepts is closely related to modern simulation software algorithms and Matrix algebra (Linear algebra). II. To develop logical understanding of the subject. III. To develop mathematical skill so that students are able to apply mathematical methods & principals in solving problem from Engineering fields.

9. Teaching and Learning Strategies

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

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Mathematic	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Strength of materials I
2. Course Code:
POLY2312
3. Semester/Year:
level UGII / Semester one
4. Description Preparation Date:
16-4-2024
5.AvailableAttendanceForms:

weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/5
7.Courseadministrator's name (mention all, if more than one name)
Name: Prof. Dr. Ahmed Fadhil Hamzah Email: mat.ahmed.fadhil@uobabylon.edu

8. Course Objectives

Course Objectives	1. Apply the basic fundamental principles of mechanics and calculus to approach problems in strength of materials. 2. Understand the classification of materials based on ductility or brittleness. 3. Explain different types of strains and stresses and their relations. 4. Resolve stress and strains on inclined planes and when rotated. 5. Understand the concept of biaxial and tri-axial stresses; also the relationship between the shear and normal stresses in these state of stresses. 6. Establish the effect of torque on a rotating shaft. 7. Describe types of beams in their loading conditions. 8. Calculate the shear force required in causing a failure of a loaded beam. 9. Determine the location for bending and the maximum bending moment possible in a particular loading condition. 10. any form of loaded beams and draw the shear and bending diagrams.

9. Teaching and Learning Strategies

Strategy	1. Provision of detailed explanation in class on each topic. 2. Provision of adequate illustration on the board. 3. Making lecturing periods interactive. 4. Giving the students class work during the lecture period. 5. Giving take-home assignments at the end of each lecture. 6. Solving practical questions.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Strength of materials I	It was mentioned in the program	It was mentioned in the program

1. Course Name:

Petroleum Properties

2. Course Code:

POLY2303

3. Semester/Year:

level UGII / Semester one

4. Description Preparation Date:

16-4-2024

5.AvailableAttendanceForms:

weekly

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

125/5

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

Name: Auda Jabbar Braihi
Email: mat.auda.jabbar@uobabylon.edu.iq

8. Course Objectives

Course Objectives	1.Giving the student the definitions used in the subject of the physical and chemical properties of petroleum. 2-Introducing students importance of petroleum in our lives. 3-Introduce students the methods of distillation the chemicals resulting from crude oil and methods of treatment it. 4- Teaching students how to measuring the rheological properties: viscosity, viscosity index, pour point, cloud point, freezing point 5-Teaching the student how to conduct laboratory tests for petroleum , such as flash point pour point, viscosity test, and color degree test

9. Teaching and Learning Strategies

Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. 1-Introducing the student to the importance of attending lectures with focus and attention, and active participation during the lesson by answering the questions directed to him and asking questions for the purpose of completing the understanding of the material. 2 - The student's realization of the importance of the role of the polymer engineer in the implementation of material engineering projects. 3- That the student learn discipline and order inside the classroom and college. 4- Raising the skills of thinking, reasoning and innovation, providing appropriate solutions to issues related to the subject, and activating the role of the leader of the group

10. Course Structure

Week	Hours	Required Learning	Unit or subject	Learning	Evaluation

		Outcomes			method
15	125	It was mentioned in the program	Petroleum Properties	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Principles of Chemical Engineering
2. Course Code:
POLY2304
3. Semester/Year:
level UGII / Semester one
4. Description Preparation Date:
16-4-2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
100/4
7.Courseadministrator's name (mention all, if more than one name)
Name: Ammar Emad Al-kawaz Email: mat.ammar.emad@uobabylon.edu.iq
8. Course Objectives

Course Objectives	1. Knowing the SI and AE system units, operations with units, conversion of units, and conversion factors. 2. To understand the Convert a temperature in any of the standard scales and also Pressure, barometric pressure, and vacuum pressure 3. To understand Chemical Engineering Equation and Stoichiometry 4. To understand Material Balance without and with Chemical Reaction 5. Knowing theMaterialBalance(Recycle calculation). 6. Acquire knowledge of Energy Balance.

9. Teaching and Learning Strategies	
Strategy	Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website.

	Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone).

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	100	It was mentioned in the program	Principles of Chemical Engineering	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Polymeric Engineering
2. Course Code:
POLY2315
3. Semester/Year:
level UGII / Semester one
4. Description Preparation Date:
16-4-2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/5
7.Courseadministrator's name (mention all, if more than one name)
Name: Asra Ali Hussein Email: mat.assra.ali@uobabylon.edu.iq
8. Course Objectives

Course Objectives	1- Defining the student to the basics of polymer and its classifications 2- Acquiring knowledge of polymer composition through polymerization 3- Knowing the types of polymerization and the difference between one type and another 4- Acquire knowledge of the links between polymer chains 5- Acquire knowledge of how bonds are formed and their impact on

	properties of polymers

9. Teaching and Learning Strategies

Strategy	Teaching and Learning Methods 1-The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Polymeric Engineering	It was mentioned in the program	It was mentioned in the program

1. Course Name:

Baath Regime Crimes in Iraq

2. Course Code:

UOBAB2301

3. Semester/Year:

level UGII / Semester one

4. Description Preparation Date:

16-4-2024

5.AvailableAttendanceForms:

weekly

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

50/2

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

Name: **Mustafa Akeel**

Email: **mat.mustafa.akeel@uobabylon.edu.iq**	
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
15	50	It was mentioned in the program	Baath Regime Crimes in Iraq	It was mentioned in the program	It was mentioned in the program

1. Course Name:	
Computer II	
2. Course Code:	
UOBAB2004	
3. Semester/Year:	
level UGII / Semester one	
4. Description Preparation Date:	
16-4-2024	
5.AvailableAttendanceForms:	
weekly	
6. Number of Credit Hours (Total)/Number of Units (Total):	
75/3	
7.Courseadministrator's name (mention all ,if more than one name)	
Name: Hussein Mohammed Salman Email: Hus12ms@uobabylon.edu.iq	
8. Course Objectives	
Course Objectives	1. To develop students skills in the software of computer through training on the visual languages. 2. Understand how to deal with the scientific and engineering problems, and how convert these problems into programs.

	3. This course deals with the Integrated Developing Environment of the visual basic programming language. 4. Teach the students how to build an integrated project to solve any scientific and engineering problems. 5. Discuss and explain all tools in the IDE of the language. 6. Understand the methods, tools and functions of the data input and output. 7. Develop skills of the student to improve their projects to adaptive it with any change in the problem. 8. Teaching new skills in other technical language as MATLAB technical and simulation language.

9. Teaching and Learning Strategies

Strategy	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	75	It was mentioned in the program	Computer II	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Thermodynamic-I
2. Course Code:
POLY2411
3. Semester/Year:
level UGII / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/5

7.Courseadministrator's name (mention all, if more than one name)
Name: Ali Salah Hasan Email: mat.ali.salah@uobabylon.edu.iq

8. Course Objectives

Course Objectives	1. To equip students with the skills to confidently apply the first and second laws of thermodynamics 2 To provide the analytical skills to analyses the flow of incompressible fluids 3 To develop a fundamental understanding of fluid and thermodynamics and apply these to real world engineering systems. 4 To reinforce learning through laboratory investigations 5 To develop skills in basic numeric and algebraic techniques 6 Study the cycles of internal combustion engines. 7 Study of the kinetics of chemical reactions. 8 Solve a thermodynamic problem. 9 To instill professional laboratory working practice

9. Teaching and Learning Strategies

Strategy	Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

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

15	125	It was mentioned in the program	Thermodynamic-I	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Strength of Materials II
2. Course Code:
POLY2412
3. Semester/Year:
level UGII / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/5
7.Courseadministrator's name (mention all, if more than one name)
Name: Ahmed Fadhil Hamzah Email: Mat.ahmed.fadhil@uobabylon.edu.iq
8. Course Objectives

Course Objectives	1. The students will carry out experiment in the strength of material Laboratory to determine shear force and bending moment of loaded beams. 2. State the assumptions in the theory of bending. 3. Establish a relationship between a radius of curvature of a beam, bending moment, bending stress, and the cross-sectional dimensions of a beam. 4. Understand the methods for determining the deflection in different forms of beams. 5. Understand the double integration method. 6. Solve problems of beams deflection using double integration method. 7. Understand the ways by which failure of structure and machine members occur. 8.Ask questions concerning their doubts in any

	part of the course.

9. Teaching and Learning Strategies

Strategy	1. Provision of detailed explanation in class on each topic. 2. Provision of adequate illustration on the board. 3. Making lecturing periods interactive. 4. Giving the students class work during the lecture period. 5. Giving take-home assignments at the end of each lecture. Solving practical questions.3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Strength of Materials II	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Petroleum Products
2. Course Code:
POLY2403
3. Semester/Year:
level UGII / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
Weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
125/5
7.Courseadministrator's name (mention all, if more than one name)
Name: NardeenA.Berto Email: Mat.nardeen.albakry@uobabylon.edu.iq
8. Course Objectives

Course Objectives	1. Knowledge types of the petroleum products. 2. Define the specifications and uses of petroleum products. 3.Knowledge the technologies those used to upgrade petroleum products properties.

9. Teaching and Learning Strategies

Strategy	1- 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Petroleum products	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Rubber Technology
2. Course Code:
POLY2404
3. Semester/Year:
level UGII / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
Weekly

6. Number of Credit Hours (Total)/Number of Units (Total):
150/6

7.Courseadministrator's name (mention all, if more than one name)
Name: Massar Najim Obaid Email: mat.massar.najim@uobabylon.edu.iq

8. Course Objectives

Course Objectives	1. Defining the student, the rubber structure, the types of elastomers and study the mechanical, physical and chemical properties of elastomers. 2. Acquiring knowledge of the compounding process, the vulcanization process of elastomers and the most industrial application of rubbers

9. Teaching and Learning Strategies

Strategy	Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	150	It was mentioned in the program	Rubber Technology	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Materials Physics

2. Course Code:

POLY2405

3. Semester/Year:

level UGII / Semester two

4. Description Preparation Date:

16/4/2024

5.AvailableAttendanceForms:

Weekly

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

125/5

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

Name: Mohammed jawadhadikadhum
Email: mat.mohammed.jawad@uobabylon.edu.i

8. Course Objectives

Course Objectives	1. To equip the students to have a knowledge on different types of electron theory and quantum mechanics. 2. To make the student to understand the basics of materials physics. 3. To introduce the physical of semiconductors materials and application. 4. To familiarize the students with theory of magnetic and electrical. 5. To learn the students the fundamental of physics optics.

9. Teaching and Learning Strategies

Strategy	Teaching and Learning Methods 1- The method of delivering the lecture and it includes the following foundations (the introduction and the prelude to the lesson, the presentation of the material as a coherent sequential presentation). 2- The method of discussion, i.e. (making the student the center of effectiveness instead of teaching). 3- Publishing electronic lectures on the Babylon University website. Assessment methods 1- Classroom discussion during the lecture. 2- The sudden exam (cone). 3- Homework 4- Monthly exams (number 2) and exams for the final courses.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	125	It was mentioned in the program	Materials Physics	It was mentioned in the program	It was mentioned in the program

1. Course Name:
Arabic Language II
2. Course Code:
UOBAB2001
3. Semester/Year:
level UGII / Semester two
4. Description Preparation Date:
16/4/2024
5.AvailableAttendanceForms:
weekly
6. Number of Credit Hours (Total)/Number of Units (Total):
50/2
7.Courseadministrator's name (mention all, if more than one name)
Name: Ail jimeel Email: Ali.jimeel1995@gmail.com
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
15	50	It was mentioned in the program	Arabic Language II	It was mentioned in the program	It was mentioned in the program

1. Course Name:

English Language II

2. Course Code:

UOBAB2302

3. Semester/Year:

level UGII / Semester two

4. Description Preparation Date:

16/4/2024

5.AvailableAttendanceForms:

weekly

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

50/2

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

Name: Nawar Saadi Abed Bakly
Email: nawarbakly@uobabylon.edu.iq

8. Course Objectives

Course Objective	• Acquiring students' knowledge of the rules of the English language. • Acquiring students' ability to speak correctly with general vocabulary and additions that adhere to the principles of the language. • Acquiring students' ability to pronounce terminology correctly, especially engineering terms. • Acquiring students' skill in writing sentences correctly with the fewest

	errors possible.
9. Teaching and Learning Strategies	
Strategy	• The lecture delivery method by the subject teacher in both English and Arabic, including the following components: (introduction and lesson prelude, sequential and interconnected material presentation). • Utilization of visual, video, and audio presentation aids. • Publishing electronic lectures on the University of Babylon's website, organized in a consistent format for each unit.