Ministry of Higher Education and Scientific Research
Scientific supervision and evaluation device
Department of Quality Assurance and Academic Accreditation
Department Accreditation

Academic program and course description guide

2024

Introduction:

The educational program is considered a coordinated and organized package of academic courses that includes procedures and experiences organized in the form of academic 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 description of the academic program 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 of 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 edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the latest developments in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, quarterly), in addition to adopting the description of the academic program circulated according to the book of the Department of Studies 3/2906. On 5/3/2023 with regard to programs that adopt the Bologna Process as a basis for their work .

In this area, we can only emphasize the importance of writing descriptions of academic programs and courses to ensure the smooth conduct of the educational process.

Concepts and terminology:

Description of the academic program: The description of the academic program 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 necessary summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he has 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 a developed, inspiring, motivating, realistic and applicable program.

The program's mission: It briefly explains the goals and activities necessary to achieve them, and also defines the program's development paths and directions.

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/study subjects included in the academic program according to the approved learning system (semester, annual, Bologna track), whether it is a requirement (ministry, university, college, or scientific department), along with the number of study units

Learning outcomes: A consistent set of knowledge, skills, and values that the student has acquired after the successful completion of 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: They are the strategies used by the faculty member to develop the student's teaching and learning, and they are plans that are followed to reach the learning goals. That is, it describes all curricular and extracurricular activities to achieve the learning outcomes of the programmer.

Academic program description form

University name: Southern Technical University.

College/Institute: Architecture Technical Institute.

Scientific Department: Department of Electrical Technologies

Name of the academic or professional program: Diploma.....Electricity.

Name of final degree: Diploma in Electrical Technology..

Academic system: annual

Description preparation date: 14/2/2024

Date of filling the file: 14/2/2024

the signature:

Name of scientific assistant: Suhaeb Jasim

the date 25/3/2024

the signature:

Name of department head: Fatima Yaseen

the date 25/3/2024

Check the file before

Division of Quality Assurance and University Performance

Name of the Director of the Quality Assurance and University Performance Division: Naglaa Kadhem Abdel Hassan

the date: 25/3/2024

the signature

Authentication of the Dean

1. Program vision

We aspire for the Department of Electrical Technologies to be an influential scientific, cultural and intellectual center that nourishes society with specialized cadres that meet the needs of the labor market and are equipped with the requirements of higher education.

1. Program message

Preparing electrical technical cadres responsible for managing the work of electrical machines, methods of generating electrical energy, the electrical network, and transmission and distribution lines of electrical energy, equipped with academic knowledge and scientific skills.

1. Program objectives

1- Embodying the vision, mission and goals of the Electrical Technologies Department, and 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 the preparation of future electrical specializations.

3- Spreading the culture of human diversity in society, transferring knowledge and linguistic skills, writing academic research, and creative scientific achievement through student- and teaching-focused activities.

.4-The Institute seeks to conclude scientific and cultural cooperation agreements with corresponding institutes and corresponding departments in various technical universities to achieve best practices in the fields of education and learning.

.5- Focusing on the educational and moral aspects of all its employees and spreading the spirit of dedication, tolerance, commitment and work to serve the nation.

1. Programmatic accreditation

There is

2. Other external influences

nothing

3. **Program structure**				
Program structure	**percentage**	**Study unit**	Program structure	* **comments**
Enterprise requirements		90		
College requirements				
Department requirements				
summer training	There is			
Other				

*Notes may include whether the course is core or elective.

4. **Program description**

Department of Electrical Technologies / first year (Chapter one) /(2022-2023)

sequence	The name of the article	The number of hours			number of units	material type	Teaching language
		theoretical	work	sum			
1	Electrical Circuits/1	2	2	4	4	specialization	Taught in English
2	Electrical Installation	2	2	4	4	specialization	
3	Principles of Electronics	2	2	4	4	specialization	
4	Computer Fundamentals/1	-	2	2	2	help	Course 1
5	Mathematics /1	2	-	2	2	help	
6	Occupational Safety	2	-	2	2	General	Course 1
7	Engineering Drawing	-	3	3	-	help	
8	English Language/1	2	-	2	2	General	Course 1
9	Human Rights and Democracy	2	-	2	2	General	Course 1
10	Workshops	-	6	6	-	specialization	Course 1
sum		14	17	31	22		

Hours/ week	units

31	22

sequence	The name of the article	The number of hours			number of units	material type	Teaching language
		theoretical	work	sum			
1	AC Electrical Crcuits	2	2	4	4	specialization	Taught in English
2	Electrical installation applications	2	2	4	4	specialization	
3	Electronic Circuits	2	2	4	4	specialization	
4	Engineering and Electrical Drawing	-	3	3	6	help	
5	Mathematics/2	2	-	2	2	help	
6	Digital Electronic	2	2	4	4	specialization	Course 1
7	Workshops	-	6	6	12	specialization	
sum		10	17	27	36		

Department of Electrical Technologies / first year (Chapter Two) /(2022-2023)

units	Hours/ week
36	27

Department of Electrical Technologies / Second year /(2022-2023)

sequence	The name of the article	The number of hours			number of units	material type	Teaching language
		theoretical	work	sum			
1	Industrial Installation	2	2	4	8	specialization	
2	Electrical Machines	2	3	5	10	specialization	
3	Electrical Networks	2	2	4	8	specialization	
4	power electronics	2	3	5	10	specialization	
5	Maintenance s workshop	-	4	4	3	specialization	
6	Computer Fundamentals /2	-	2	2	2	help	Course 1
7	Electrical Drawing	-	3	3	3	specialization	Course 1
8	Programmable logic control (PLC)	1	2	3	3	specialization	Course 1
9	English Language/2	2	-	2	2	General	Course 1
10	Graduation Project	-	2	2	1	specialization	Course 1
sum		11	23	34	50		

units	Hours/ week
50	34

5. Expected learning outcomes of the program	
Knowledge	
The student operates and maintains electrical units in electrical power generation, transmission, and distribution stations	**The student learns to maintain the protection and control devices of the electrical power system**
Skills	
1 – Operating and maintaining electrical units for electrical power generation stations	**2 – Operating and maintaining electrical equipment for transmission and distribution of electrical energy**
3 – Maintenance of protection and control devices for electrical power supply	**4 – Extension and maintenance of ground and aerial cables**
Value	
Developing students' abilities to participate in maintaining equipment in electrical stations	**Working within a team**
Respect management and know how to deal with others	

6. Teaching and learning strategies

1 - Explanation of the scientific material

2- The project

3- Scientific visits to electrical power generation, transmission and distribution stations

4- Homework

5- Theoretical and practical subjects

6- Daily exams

7. Evaluation methods

Mid-term exams and end-of-year exams. Reports

7-The teaching staff						
Faculty members						
Scientific rank	**Specialization**		**Special requirements/skills (if any)**		**Preparing the teaching staff**	
	general	private			angel	A lecturer
Teacher	**mathematics**	Applied mathematics	Assistant Dean		angel	
assistant teacher	electricity	Electrical capacity	Head of the Department		angel	
assistant teacher	electricity	Electrical capacity			angel	
Engineer	electricity	Electrical capacity			angel	
older engineer	electricity	Electrical capacity	Department rapporteur		angel	

Professional development
Orienting new faculty members
1-Holding courses 2- Establishing seminars 3- Holding seminars 4 - Holding courses and workshops within the department 5- Identify the new requirements of the labor market
Professional development for faculty members
1-Holding courses **2-Establishing seminars** **3-Holding seminars** **4-Holding courses and workshops within the department** **5-Identifying new requirements of the labor market**

8-Acceptance criterion
Central admission - vocational education - interviews - medical examination, fitness and health standards - average

9- The most important sources of information about the program
Semester programme Virtual library YouTube channel, electrical technology section

10- Program development plan
Theoretical lectures - practical lectures - daily exams - reports - seminars

مخطط مهارات البرنامج												
	مخرجات التعلم المطلوبة من البرنامج											
اساسي أم اختياري	المعرفة				المهارات				القيم			
	أ1	أ2	أ3	أ4	ب1	ب2	ب3	ب4	ج1	ج2	ج3	ج4
اساسي	—					—					—	

- يرجى وضع اشارة في المربعات
المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقي

Course description form

1. Course name:
Continuous electrical circuits
2-Course Code:
3-Semester/Year: Annual
quarterly
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
60 semester hours. 4 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: M.M. Fatima Yassin Abdullah Email: fatimayaseen@stu.edu.iq

8–Course objectives

General objective: To introduce the student to electrical circu and electrical measurements	**Specific objective: To prepare the student to study the various calculations in DC circuits and to become familiar with the various theories for studying these calculations. To introduce the student to the various measuring devices.**

9 –Teaching and learning strategies

1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distributio stations 4- homework 5- Theoretical and practical subjects 6- Daily exams	**The strategy**

10−Course structure					
the week	**hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours	**1 - Providing students with th skill of analyzing electrical circuits and applying them practically.** **2- Informing students about t importance of scientific theor in electrical circuits**	**Continuous electrical circuit**	1-Explaining the scientific material through applying theoretical ar practical examples 2- Writing scientific reports 3- Linking theoretical ideas to the process	Weekly, monthly, daily, written exams, and the en of-year exam.

11− Course evaluation
The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12− Learning and teaching resources	
Required textbooks (methodology, if any)	Fundamentals of Electrical Engineering - Mohamed Fawzi
Main references (sources)	Fundamentals of Electric Circuits C. K. Alexander and M. N. O. Sadiku
Recommended supporting books and references (scientific (....journals, reports	Schaum series book, Foundations of Electrical Engineering

Electronic references, Internet sites	https://zlibrary-asia.se/ https://www.researchgate.net/

Course description form

1. Course name:
AC electrical circuits
2-Course Code:
3-Semester/Year: Annual
quarterly
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
60 semester hours. 4 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: M.M. Fatima Yassin Abdullah Email: fatimayaseen@stu.edu.iq

8−Course objectives	
General objective: To introduce the student to electrical circuits and electrical measurements	**Specific objective: To prepare the student to study the various calculations in circuits with alternating current and to become familiar with the various theories for studying these calculations. To introduce the student to the various alternating current measuring devices.**

9 −Teaching and learning strategies	
1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- homework 5- Theoretical and practical subjects 6- Daily exams	**The strategy**

10 − Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 **15**	4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours	1 - Providing students with the skill of analyzing electrical circuits a applying them practically. 2- Informing studer about the importan of scientific theorie in electrical circuits	AC electrical circuits	1-Explaining scientific material through applying theoretical and practical examples 2- Writing scientific reports 3- Linking theoretic ideas to the process	Weekly, monthly, daily, writt exams, a the end-year exam

11-Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12− Learning and teaching resources

Fundamentals of Electrical Engineering - Mohamed Fawzi	Fundamentals of Electrical Engineering - Mohamed Fawzi
Fundamentals of Electric Circuits C. K. Alexander and M. N. O. Sadiku	Fundamentals of Electric Circuits C. K. Alexander and M. N. O. Sadiku
Schaum series book, Foundations of Electrical Engineering	Schaum series book, Foundations of Electrical Engineering
Electronic references, Internet sites	https://zlibrary-asia.se/ https://www.researchgate.net/

Course description form

1. Course name:	
Electrical installations	
2-Course Code:	
3-Semester/Year: Annual	
quarterly	
4-Date this description was prepared: 02/14/2024	
5-Available attendance forms:	
Theoretical and practical lessons	
6-Number of study hours (total)/number of units (total):	
60 semester hours. 4 hours per week	
7- Name of the course administrator (if more than one name is mentioned)	
Name: M.M. Fatima Yassin Abdullah Email: fatimayaseen@stu.edu.iq	
8−Course objectives	
General objective: To introduce the student to the various electrical installation systems.	**Specific Objective: The student will be able to identify electrical materials and wiring systems used in laboratories and homes, establish and install electrical machines, and methods of controlling and protecting various loads during the establishment.**
9 −Teaching and learning strategies	
1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- homework 5- Theoretical and practical subjects 6- Daily exams	The strategy

10−Course structure					
the week	**hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours	1 - Providing studer with the skill electrical installatic and applying the practically. 2- Informing studer about the importar of choosing electri elements in buildi construction a extending ground a aerial electrical cable	Electrical installations	1-Explaining scientific material through applying theoretical and practical examples 2- Writing scientif reports 3- Linking theoretical ideas t the process	Weekly, monthly, dail written exam and the end-c year exam.

11−Course evaluation
The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12−Learning and teaching resources	
Required textbooks (methodology, if any)	Electrical installations Prepared by Dr. Braided by Anwar Al−Naama
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	https://zlibrary-asia.se/ https://www.researchgate.net/

Course description form

1. Course name:
Electrical installation applications
2-Course Code:
3-Semester/Year: Annual
Quarterly
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
60 semester hours. 4 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: M.M. Fatima Yassin Abdullah Email: fatimayaseen@stu.edu.iq
8–Course objectives

General objective: To introduce the student to the various electrical installation systems.	**Specific Objective: The student will be able to identify electrical materials and wiring systems used in laboratories and homes, establish and install electrical machines, and methods of controlling and protecting various loads during the establishment.**

9 –Teaching and learning strategies	
1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- homework 5- Theoretical and practical subjects 6- Daily exams	The strategy

10−Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours	1- Providing students with the skill of electrical installations and applying them in practice. 2- Informing students abou the importan of choosing electrical elements in constructing buildings and extending ground and aerial electric cables	Electrical installation applications	1-Explaining the scientific material through applying theoretical and practical examples 2- Writing scientific reports 3- Linking theoretical ideas t the process	Weekly, monthly, daily, written exams, and the end -of-year exam.

Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12-Learning and teaching resources	
Required textbooks (methodology, if any)	Electrical installations Prepared by Dr. Braided by Anwar Al-Naama
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	https://zlibrary-asia.se/ https://www.researchgate.net/

Course description form

1. Course name:
Electronic principles
2-Course Code:
3-Semester/Year: Annual
Quarterly
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
60 semester hours. 4 hours per week
Name of the course administrator (if more than one name is mentioned)
Name: M.M. Ayman Kazem Muhaisen Email: aymenks@stu.edu.iq
7–Course objectives

Specific objective: The student will be able to become familiar with: electronic components manufactured from semiconductors of various types - their composition - properties - their uses in electronic circuits - their applications - analysis of their electronic circuits - optoelectronic components and their applications	**General objective: To familiarize the student with the various electronic components**
9 –Teaching and learning strategies	
1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- homework 5- Theoretical and practical subjects 6- Daily exams	The strategy

10 − Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours	1-Providing students with the skill of electronic components and their practical application. 2- Informing students about the importance c selecting electronic components, designing various electronic circuits, detecting fault and maintaining them.	Electronic principles	1-Explaining scientific material through applying theoretical ar practical examples 2- Writing scientific reports 3- Linking theoretical ideas to the process	Weekly, monthly, daily, writt exams, and the end-of-year exam

11-Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12- Learning and teaching resources	
Required textbooks (methodology, if any)	
Main references (sources)	Electronic Devices and Circuit Theory -Robert L Boylestad Louis Nashelsky Contemporary Electronics Book – Yassin Ahmed Shaboul
Electronic references, Internet sites	www.farahat-library.com/blog

Course description form

1. Course name:
Electronic circuits
2-Course Code:
3-Semester/Year: Annual
Quarterly
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
60 semester hours. 4 hours per week
Name of the course administrator (if more than one name is mentioned)
Name: M.M. Ayman Kazem Muhaisen Email: aymenks@stu.edu.iq
7−Course objectives

Specific objective: The student will be able to become familiar with: electronic components manufactured from semiconductors of various types - their composition - properties - their uses in electronic circuits - their applications - analysis of their electronic circuits - optoelectronic components and their applications	**General objective: To familiarize the student with the various electronic components**
9 −Teaching and learning strategies	
1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- homework 5- Theoretical and practical subjects 6- Daily exams	The strategy

10−Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours 4 hours	1- Providing students with the skill of electronic components and their practical application. 2- Informing students about the importance of selecting electronic components, designing various electronic circuits, detecting faults and maintaining them.	Electronic circuits	1-Explaining scienti material throu applying theoreti and practical example 2- Writing scienti reports 3- Linking theoreti ideas to the process	Weekly, monthly, daily, written exams and the end-of-year exam.

11−Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12- Learning and teaching resources	
Required textbooks (methodology, if any)	
Main references (sources)	Electronic Devices and Circuit Theory -Robert L. Boylestad Louis Nashelsky Contemporary Electronics Book - Yassin Ahm Al-Shaboul
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	www.farahat-library.com/blog

Course description form

1. Course name:
Mathematics/1
2-Course Code:
3-Semester/Year: Annual
Quarterly
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
30 semester hours. 2 hours per week
7-Name of the course administrator (if more than one name is mentioned)
Name: M. Suhad Jassim Khalifa Email: suhadjasim@stu.edu.iq
8– Course objectives
The student will be able to: **1. Understands simple mathematical laws and equations** **2. Applies the laws in the field of electrical circuits**
9– Teaching and learning strategies

1- Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- Homework 5- Theoretical and practical subjects 6- Daily exams	The strategy

10- Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours	1- Providing students with the skill of solvin various mathematical equations 2- Informing students about the importance mathematical relationships and linking them to practical reality	Mathematics /1	1-Explaining scientific mater through applyi theoretical example 2- Writing scienti reports 3- Linking theoreti ideas to the process	Weekly, monthly, daily, written exams, a the end-year exan

11- Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12- Learning and teaching resources	
Required textbooks (methodology, if any)	Applied Mathematics Youssef Yacoub Sabbagh
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

نموذج وصف المقرر

1. Course name:
Mathematics/2
2-Course Code:
3-Semester/Year: Annual
Quarterly
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
30 semester hours. 2 hours per week
7-Name of the course administrator (if more than one name is mentioned)
Name: M. Suhad Jassim Khalifa Email: suhadjasim@stu.edu.iq
8– Course objectives
The student will be able to: **1. Understands simple mathematical laws and equations** **2. Applies the laws in the field of electrical circuits**
9– Teaching and learning strategies

1- Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- Homework 5- Theoretical and practical subjects 6- Daily exams	The strategy

10− Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours	1- Providing students with the skill of solvin various mathematical equations 2- Informing students about the importance mathematical relationships and linking them to practical reality	Mathematics /2	1-Explaining scientific mater through applyi theoretical example 2- Writing scienti reports 3- Linking theoreti ideas to the process	Weekly, monthly, daily, written exams, a the end-year exan

11− Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12- Learning and teaching resources	
Required textbooks (methodology, if any)	Applied Mathematics Youssef Yacoub Sabbagh
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course description form

1−Course Name:
Engineering and electrical drawing
2−Course Code:
3-Semester/Year: Annual
annual
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
90 semester hours. 3 hours per week
7-Name of the course administrator (if more than one name is mentioned)
Name: Helen Ali Sadiq Email: suhadjasim@stu.edu.iq
8−Course objectives
The student will be able to use AutoCAD drawing and understand drawing and modification tools
9−Teaching and learning strategies

1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** **6- Daily exams**	The strategy

10−Course structure					
the week	**hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	3 hours 3 hours	**1- Providing students with the skill of drawin using the AutoCAD program** **2-Design, draw and modify electrical maps** **3- Drawing and modifying electrical components and variou elements**	Engineering and electrical drawing	1-Explaining the theoretical materia through applying theoretical example 2- Use the calculat to learn drawing 3- Linking theoretic ideas to the process	Weekly, monthly, daily, written exams, and the end-of-.year exam

11- Course evaluation					
The distribution is as follows: 50 marks for the monthly and daily exams, theoretical and practical, + 50 marks for the final exam					
12- Learning and teaching resources					
Required textbooks (methodology, if any)			Electrical drawing Prepared by Hani Aziz Boutros		
Main references (sources)					
Recommended supporting books and references (scientific journals, reports....)					
Electronic references, Internet sites					

Course description form

1- Course Name:	
Human rights and democracy	
2– Course Code:	
3– Semester/Year: Annual	
quarterly	
4– Date this description was prepared: 02/14/2024	
5- Available attendance forms:	
Theoretical and practical lessons	
6- Number of study hours (total)/number of units (total):	
30 semester hours. 2 hours per week	
7- Name of the course administrator (if more than one name is mentioned)	
Name: M. M. Nourhan Ali Abdullah	Email:
8–Course objectives	
Human rights and fundamental freedoms allow us to develop and make full use of our human qualities, intelligence, talents and awareness, and to satisfy our spiritual and other needs.	
9– Teaching and learning strategies	
1-Explanation of the scientific material **2- Project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** **6- Daily exams**	The strategy
10– Course structure	

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours	**1- Introducing the stude to the roots of human rights and their developments in human history** **2- Informing students about human rights in ancient civilizations, especially the Mesopotamian civilizati**	Human rights a democracy	1-Explaining the theoretical material through applying theoretical examples 2- Access and knowled of the most important laws 3- Linking human rights daily reality	Weekly, monthly, daily, written exams, an the end-o year exam

11- Course evaluation
The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12- Learning and teaching resources	
Required textbooks (methodology, if any	
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course description form

1- Course Name:
Occupational safety
2– Course Code:
3- Semester/Year: Annual
quarterly
4- Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
30 semester hours. 2 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: Khazal Hato Hussein Email:
8– Course objectives
Providing a clear and comprehensive picture of occupational safety and protection methods to prevent and reduce the occurrence of accidents while working inside facilities and electrical power stations.
9– Teaching and learning strategies

1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- Homework 5- Theoretical and practical subjects 6- Daily exams	**The strategy**

10− Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours	1- Introducing the studen to the importance of occupational safety withi establishments and factories 2-Teaching the student to avoid injuries resulting from electrical contact 3- Introducing the studen to different personal protective equipment	Occupational safety	1-Explaining the theoretical material through applying theoretical examples 2- Learn about the most important safety rules 3- Linking theoretical lectures to practical reality	Weekly, monthly, daily, written exams, a the end-year exam

11− Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12- Learning and teaching resources	
Required textbooks (methodology, if any)	Occupational safety Dr . Hikmat Jameel
Main references (sources)	Occupational safety Prepared by Rahim Turki Ali
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course description form

1-Course Name:
Computer basics/1
2-Course Code:
3-Semester/Year: Annual
quarterly
4- Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
30semester hours. 2 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: Helen Ali Sadiq Email: Helen.i92022@gmail.com
8– Course objectives
Teaching the student the basics of the computer, the operating system, and the most important commands, then entering the AUTOCAD drawing program, learning about the drawing interface and drawing and modification commands, entering 3D drawing, then learning about the concept of viruses and ways to combat them.
9– Teaching and learning strategies

1- Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- Homework 5- Theoretical and practical subjects 6- Daily exams	**The strategy**

10− Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours	1- Introducing the stude to the importance of usi programs and applications inside the calculator 2- Familiarize the studer with the most important applications that contribute to enhancing electrical skills 3- Make the student skilled in using data tabl and graphs	Computer basics/1	1-Explaining the theoretical material through applying theoretical examples 2- View important applications and prograi 3- Linking applications with the student's electrical specialty so th he becomes able to desig electrical circuits using a calculator	Weekly, monthly, daily, writt exams, and the end-of- year exam.

11− Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12- Learning and teaching resources	
Required textbooks (methodology, if any)	
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course description form

1-Course Name:
Digital electronics
2-Course Code:
3-Semester/Year: Annual
quarterly
4- Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
30semester hours. 2 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: Helen Ali Sadiq Email: Helen.i92022@gmail.com
8– Course objectives
Teach the student the basics of logical circuits in electronic computers and how to Building simple digital circuits using truth tables and teaching students circuits Swings, counters, addition circuits, and registers
9– Teaching and learning strategies

1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- Homework 5- Theoretical and practical subjects 6- Daily exams	**The strategy**

10- Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours	**1- Introducing the studen to the different numerica numbers** **2- The student learns to u numerical conversions from one system to anoth and vice versa** **3- Be able to build, program and operate integrated circuits**	Digital electronics	1-Explaining the theoretical material through applying theoretical examples 2- View important applications and programs 3- Linking applicatio with the student's electrical specialty s that he becomes able to design digital circuits using integrated circuits	Weekly, monthly, daily, written exams, a the end-year exan

11- Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams for the first semester. + 50 marks for the final exam.

12-Learning and teaching resources	
Required textbooks (methodology, if any)	Digital circuits educational bag
Main references (sources)	Digital Circuits 1 – Numerical Systems
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	http://computer.atlas4e.com/Project_E1/Project/chapter02hapter2_a.htm#

Course Description Form

1. Course Name:	
English language/1	
2. Course Code:	
3. Semester / Year:	
Semester	
4. Description Preparation Date:	
15/3/2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Two hours per week and thirty hours per semester	
7. Course administrator's name (mention all, if more than one name)	
Name: Rihab Hannon Jabir Email: rehabhj7@gmail.com	
8. Course Objectives	
Course Objectives	• ..... • ..... • .....
helps them to write scientific reports in their field of specialization in nglish language, and improve listening and speaking skills	
9. Teaching and Learning Strategies	
Strategy	Discussion strategy Homework strategy Quiz strategy

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9	2 2 2 2 2 2 2 2 2		1- Hello/ Am,is,are. This is 2- Your world He, she, they,his, her Questions 3-All about you Negatives, Questions, Short answers 4-Family and friend Possessive adjectives, possessive have/has, Adjective+ noun 5- The way I live Present Simple I/you/we/they A and an 6- Every day speak English Present Simple he/she Question and negatives Adverbs and frequency 7- My favourites Question words Pronouns Subject/object/possessive This and that 8- Where I live There is/are Prepositions 9- Times past Was/ were born Past simple_ irregular verbs 10- We had a great time Past simple_ regular and irregula Questions	Explain the scientifitic material first, then discuss with the student	Daily exams, Mid-term Exam And end –of-semester exam

10	2		Negatives Ago 11- I can do that! Can/ can't Adverbs Requests and offers 12- Please and thank you		
11	2		I'd like Some and any Like and would like 13- Here and now		
12	2		Present Continuous Present Simple and Present Continuous 14- It's time to go! Future plans		
13	2		Revision 15- Exam		
14	2				
15	2				

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)	HEAD WAY
Main references (sources)	GGENER STUDENT'S BOOKS Liz and John Sears
Recommended books and references (scientific journals, reports…)	glish for technicians Wadie M. Hanna, B,A
Electronic References, Websites	ttps://zlibrary-asia.se/ https://www.researchgate.net/

Course description form

1−Course Name:	
Electrical machines	
2−Course Code:	
3−Semester/Year: Annual	
annual	
4-Date this description was prepared: 02/14/2024	
5-Available attendance forms:	
Theoretical and practical lessons	
6-Number of study hours (total)/number of units (total):	
150 hours annually. 5 hours per week	
7-Name of the course administrator (if more than one name is mentioned)	
Name: M. M. Ayman Kazem Muhaisen Email: aymenks@stu.edu.iq	
8−Course objectives	
Specific objective: The student will be able to: **1- Understands the theory of operation of direct and alternating current machines** **2- Operates electrical machines.** **3- Identifies the parts of electrical machines and transformers.**	**General goal:-** **Introducing the student to the parts and operation of electrical machines.**
9−Teaching and learning strategies	
1-Explanation of the scientific material 2- The project 3- Scientific visits to electrical power generation, transmission and distribution stations 4- Homework 5- Theoretical and practical subjects 6- Daily exams	**The strategy**

10−Course structure

the week	hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	5 hours 5 hours	**1- Introducing the studen to the parts of the electric machine** **2- The student learns the different connections to operate and protect electrical machines, generators, and transformers** **3- Be able to build an electrical power generatic system**	Electrical machines	1-Explaining the theoretical material through applying theoretical examples 2- Check out the electrical machines inside the laboratory 3- Scientific visits to electric power statio	Weekly, monthly, daily, written exams, and the end-of-year exam.

11–Course evaluation					
The distribution is as follows: 50 marks for the monthly and daily exams, theoretical and practical, + 50 marks for the final exam					
12–Learning and teaching resources					
Required textbooks (methodology, if any)			Electrical machines Author Dr. Mohammed Zaki		
Main references (sources)					
Recommended supporting books and references (scientific journals, reports....)					
Electronic references, Internet sites					

Course description form

1−Course Name:
Electrical networks
2−Course Code:
3−Semester/Year: Annual
annual
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
120 hours annually. 4 hours per week
7-Name of the course administrator (if more than one name is mentioned)
Name: M. M. Fatima Yasseen Abdullah, email: fatimayaseen@stu.edu.iq

8− Course objectives	
Own target **It aims to operate and maintain electrical units in electrical power generation, transmission and distribution stations and maintain protection and control devices for the electrical energy system** .	**General objective: To familiarize the student with the parts and operation of the electrical network.**

9− Teaching and learning strategies	
1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** 6- Daily exams	**The strategy**

10- Course structure					
the week	**Hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	4 hours 4 hours	1-Introducing the stude to the parts of the electrical energy transmission and distribution system 2- The student learns about the types of electrical power generation plants 3- Be able to extend aeri and electrical cables	Electrical networks	1- Explaining the theoretical material through applying theoretical examples 2- Review the components of th electrical network system inside the laboratory 3- Scientific visits to power stations, transmission and distribution of electrical energy	Weekly, monthly, daily written exams and the end-o year exam

11−Course evaluation
The distribution is as follows: 50 marks for the monthly and daily exams, theoretical and practical, + 50 marks for the final exam

12−Learning and teaching resources	
Required textbooks (methodology, if any)	Electrical networks Prepared by − Hashem Abdel Razzaq Zalzala
Main references (sources)	Electric power generation stations − Tariq Muhammad Amin
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	Nour Library

Course description form

1−Course Name:
Power electronics
2−Course Code:
3−Semester/Year: Annual
annual
4-Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6-Number of study hours (total)/number of units (total):
150 hours annually. 5 hours per week
7-Name of the course administrator (if more than one name is mentioned)
Name: M. M. Ayman Kazem Muhaisen Email: aymenks@stu.edu.iq
8−Course objectives
The student must be able to: - **-Using the electronic device** **-Analysis of electronic circuits related to electrical energy**
9− Teaching and learning strategies

1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** 6- Daily exams	**The strategy**

10- Course structure					
the week	**Hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	5 hours 5 hours	1- Introducing the stude to the most important electronic elements 2- The student learns to inspect, connect and maintain electronic circuits 3- Be able to inspect and maintain various forms electronic circuits	Power electroni	1-Explaining the theoretical material through applying theoretical examples 2- Viewing the elements and boards inside the laboratory 3- Scientific reports power electronics circuits	**Weekly, monthly, daily, written exams, and the end-of-year exam**

11-Course evaluation	
The distribution is as follows: 50 marks for the monthly and daily exams, theoretical and practical, + 50 marks for the final exam	
12-Learning and teaching resources	
Required textbooks (methodology, if any)	Industrial electronics Diaa Mahdi Fares Al Khafaji
Main references (sources)	**Electronic Devices and Circuit Theory** **Robert L. Boylestad** **Louis Nashelsky**
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course description form

1−Course Name:
Industrial establishments
2−Course Code:
3− Semester/Year: Annual
annual
4- Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
120 hours annually. 4 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: M. M. Ayman Kazem Muhaisen Email: aymenks@stu.edu.iq
8− Course objectives
The student will be able to carry out electrical installation work, including extending ground and aerial cables to the electrical network and maintaining them, as well as electrical installations for buildings and facilities.
9− Teaching and learning strategies

1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** 6- Daily exams	**The strategy**

10− Course structure

the week	Hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	4 hours 4 hours	The student will be able to carry out electrical installatior work, including layir ground and aerial cables to the electric network and maintaining them, as well as electrical installations for buildings and faciliti	Industrial establishments	1- Explaining the theoretical material through applying theoretical examples 2- Review the various electrical components related to the foundatior of buildings and facilitie 3- Practical reports on th application of electrical installations	Weekly, monthly, daily, writte exams, and the end-of-year exam.

11- Course evaluation

The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams. + 50 marks for the final exam

12-Learning and teaching resources	
Required textbooks (methodology, if any)	Electrical installations Dr.. Muzaffar Anwar Al-Naama
Main references (sources)	Electrical installations and machines Dr.. Muzaffar Anwar Al-Naama
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	WWW.yazori.com

Course description form

1- Course Name:
Computer basics/2
2- Course Code:
3- Semester/Year: Annual
quarterly
4- Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
30 hours annually. 2 hours a week
7- Name of the course administrator (if more than one name is mentioned)
Name: Helen Ali Sadiq Email: Helen.i92022@gmail.com
8- Course objectives
Objective of the course: To teach the student to use the text editing program WORD2007, deal with tables, images, formats, prepare pages, spell check, etc., then teach the student the EXCEL2007 system to use as tables, perform calculations, use functions, and make CHARTS charts, then teach the student the types of networks, use the Internet, and deal with browsers and engines. Research and e-mail, and also teach him to use the specialized program for electricity ELECTRONICS WORKBENCH (MULTISIM) by becoming familiar with the program's interface, menus, and toolbars, and identifying the electronic devices and elements used.
9- Teaching and learning strategies

1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** 6- Daily exams	**The strategy**

10- Course structure					
the week	**Hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours 2 hours	The student learned to use the text editing program WORD2007, dealing with tabl images, formats, preparing pages, spell checking, etc. Ther he taught the student the EXCEL2007 system to use it as tables, perform calculations, u functions, and make CHARTS graphs. Then he taught the student the types of networks using the Internet, and dealing with browsers, search engines and e-mail. He is also taught to use the specialized program fo electricity, ELECTRONICS WORKBENCH (MULTISIM), by familiarizing himself with the program's interface, menus, ar toolbars, and identifying the electronic devices and elemen used.	Computer basics/2	1.Explaining the theoretical material through applying theoretical examples 2- View important applications that help the student use the computer 3- Practical reports ar exercises carried out inside the laboratory	Weekly, monthly, daily, written exams, a the end-year exan

11- Course evaluation	
The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams. + 50 marks for the final exam	
12-Learning and teaching resources	
Required textbooks (methodology, if any)	Computer basics and office applications Ziad Muhammad Abboud • Ghassan Hamid Ab Majeed
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course description form

1- Course Name:
Electrical drawing
2- Course Code:
3-Semester/Year: Annual
quarterly
4- Date this description was prepared: 02/14/2024
5-Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
45 semester hours. 3 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: Helen Ali Sadiq Email: Helen.i92022@gmail.com
8- Course objectives
Specific objective: The student will be able to: **The student will be able to design control circuits, program them in the Ladder language, and simulate the circuits using a computer** **Building control circuits for electrical machines and protecting them from malfunctions**
–

1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** 6- Daily exams	**The strategy**

10- Course structure					
the week	**Hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13** **14** **15**	3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours 3 hours	1- Providing students with the skill of drawin using the AutoCAD program 2-Design, draw and modify electrical maps 3- Drawing and modifying electrical components and variou elements	Electrical drawing	1.Explaining the theoretical materi through applying theoretical examp 2- Use the calculator to learn drawing 3- Linking theoretical ideas t the process Electrical drawing	Weekly, monthly, daily, writt exams, and the end-of- year exam.

11- Course evaluation	
The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams. + 50 marks for the final exam	
12-Learning and teaching resources	
Required textbooks (methodology, if any)	Engineering drawing, Abd al-Rasoul Abd al-Aziz al-Khafaf.
Main references (sources)	Principles of engineering drawing, Muhammad Karim
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course description form

1–Course Name:
PLC programmed logic control
2– Course Code:
3– Semester/Year: Annual
quarterly
4– Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
45 semester hours. 3 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: M.M. Ayman Kam Muheisen Email: aymenks@stu.edu.iq
8– Course objectives
Specific objective: The student will be able to: **The student will be able to design control circuits and program them in the Ladder language, simulate circuits using a computer, and build control circuits to control the operation of electrical machines and protect them from electrical faults.**
9– Teaching and learning strategies

1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** 6- Daily exams	**The strategy**

10- Course structure					
the week	**Hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 **2** **3** **4** **5** **6** **7** **8** **9** **10** **11** **12** **13** **14** **15**	**3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours** **3 hours**	The student will be abl to design control circui and program them in t Ladder language, simulate circuits using computer, and build control circuits to cont the operation of electrical machines and protect them from electrical faults.	PLC programm logic control	1- Explaining the theoretical material through applying theoretical and practical examples 2- Using the calculator to learn simulations between re laboratory equipment and carry out experiments 3-Building a control system f some electrical equipment ar operating it programmaticall	Weekly, monthly, daily written exams and the end-o year exam.

11- Course evaluation	
The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams. + 50 marks for the final exam	
12-Learning and teaching resources	
Required textbooks (methodology, if any)	Programmable Logic Controllers Frank D. Petruzella
Main references (sources)	
Recommended supporting books and references (scientific journals, reports....)	
Electronic references, Internet sites	

Course Description Form

13. Course Name:	
English language/2	
14. Course Code:	
15. Semester / Year:	
Semester	
16. Description Preparation Date:	
15/3/2024	
17. Available Attendance Forms:	
18. Number of Credit Hours (Total) / Number of Units (Total)	
Two hours per week and thirty hours per semester	
19. Course administrator's name (mention all, if more than one name)	
Name: Rihab Hannon Jabir Email: rehabhj7@gmail.com	
20. Course Objectives	
Course Objectives	• ..... • ..... • .....
helps them to write scientific reports in their field of specialization in nglish language. Improve listening and speaking skills.	
21. Teaching and Learning Strategies	
Strategy	Discussion strategy Homework strategy Quiz strategy

22. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8	2 2 2 2 2 2 2 2		1-Hello everybody Verb to be Possessive adjective 2- Meeting people Questions and negatives Negatives and short answers Possessive's 3-The world of work Present Simple1 Questions and negatives 4- Take it easy Present Simple 2 5- Where do you Live There is/ are How many…? Prepositions of place Some and any This, that, these, those 6- Can you speak English can/ can't was/ were could was born 7- Then and now Past Simple 1 Regular verbs Irregular verbs Time expressions 8- how long ago? Present Simple 2 Negatives and ago Time expressions	Explain th scientifitic material first, then discuss with the student	Daily exams, Mid-term Exam And end –of- semester exam

9	2		9- Food and like! Count and incount nouns Do you like……?/Would you like. A and an Much and many		
10	2		10- Bigger and better! Comparatives and superlatives Have got		
11	2		11- Looking good! Present Continuous Whose is it Possessive pronouns		
12	2		12- Life's an adventure Going to Infinitive of purpose		
13	2		13- How terribly clever Question forms Adverbs and adjectives		
14	2		14- Have you ever! Present perfect Ever and never Yet and just		
15	2		Present perfect and past simple 15- Exam		

23. 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

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	HEAD WAY
Main references (sources)	EMENTARY STUDENT'S BOOKS John and Liz Sears
Recommended books and references (scientific journals, reports…)	glish for technicians Wadie M. Hanna, B,A
Electronic References, Websites	ttps://zlibrary-asia.se/ https://www.researchgate.net/

Course description form

1– Course Name:
Factories
2– Course Code:
3– Semester/Year: Annual
annual
4– Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
20 hours annually. 4 hours per week
7- Name of the course administrator (if more than one name is mentioned)
Name: M. M. Fatima Yasseen Abdullah, email: fatimayaseen@stu.edu.iq
8– Course objectives
Objectives: The student will be able to: **1- Dismantle and install electrical machine parts** **2-Inspects electrical machines after wrapping them** **3-Distinguish between electrical machines and make the best choice**
9– Teaching and learning strategies

1- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations** **4- Homework** **5- Theoretical and practical subjects** 6- Daily exams	**The strategy**

10- Course structure					
the week	**Hours**	**Required learning outcomes**	**Name of the unit or topic and learning method**	**Learning method**	**Evaluation method**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	**4 hours** **4 hours**	1- Dismantle and install electrical machine parts 2-Inspects electrical machines after wrapping them 3-Distinguish betwe electrical machines and make the best choice		1 - Explaining the theoretical material through applying theoretical and practica examples 2- Examining, rewinding, installing ar operating electrical machines and motors 3- Preparing weekly reports on how to deal with the practical aspe	Weekly, monthly, daily, written exams, and the end-of-year exam.

11- Course evaluation					
The distribution is as follows: 50 marks for the monthly and daily theoretical and practical exams. + 50 marks for the final exam					
12-Learning and teaching resources					
Required textbooks (methodology, if any)				Electrical laboratories Muhammad Fadel Hashem	
Main references (sources)					
Recommended supporting books and references (scientific journals, reports....)					
Electronic references, Internet sites					

Course description form

1- Course Name:
Graduation Project
2- Course Code:
3- Semester/Year: Annual
annual
4- Date this description was prepared: 02/14/2024
5- Available attendance forms:
Theoretical and practical lessons
6- Number of study hours (total)/number of units (total):
60 hours annually. 2 hours a week
7- Name of the course administrator (if more than one name is mentioned)
8- Course objectives
The student will be able to:- **1- He relies on himself, not on the consistency of his practical skills.** **2-Identifies the prominent objectives of the project.** **3- Learns how to deal with a group of students in order to support group work.** **4-Determines action steps, analyzes them, and develops alternatives if obstacles arise.** **5-Draws the steps and develops designs for the project.** **6- Follows up on the progress of work on the project in terms of time.** **7- Estimates the cost of the raw materials needed to build the project.** **8-He sees and sees a simplified model of his work.** **9- Learn to write the final report of the project in an organized manner in the research format**
9- Teaching and learning strategies

- Explanation of the scientific material **2- The project** **3- Scientific visits to electrical power generation, transmission and distribution stations**	**The strategy**

4- Homework **5- Theoretical and practical subjects** 6- Daily exams	

10− Course structure

the week	Hours	Required learning outcomes	Name of the unit or topic and learning method	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	2 hours 2 hours	1- Learns how to deal with group of students in order support group work. 2-Determines action steps, analyzes them, and develo alternatives if obstacles arise. 3-Draws the steps and develops designs for the project. 4- Follows up on the progress of work on the project in terms of time.	Graduation Project	1- Selection of a topic the faculty 2- Introducing the student to what the project is and how to arrange the research parts 3- The supervisor follows up with the students regarding th project, chooses the topics, and follows up on them with the students	Weekly, monthly, daily, writt exams, and the end-of-year exam.

11- Course evaluation					
Distribution is as follows: 30 marks from the supervisor + 70 marks from the research discussion committee					
12-Learning and teaching resources					
Required textbooks (methodology, if any)					
Main references (sources)					
Recommended supporting books and references (scientific journals, reports....)					
Electronic references, Internet sites					