DIGITAL LOGIC Programme Course Description

CODE	NAME OF THE COURSE UNIT	SEMESTER	IN-CLASS HOURS (T+P)	CREDIT	ECTS CREDIT
CTE100	Digital Logic	1	4	3	7

GENERAL INFORMATION

Language of Instruction:	**English**
Level of the Course Unit:	**Bachelor's Degree**
Type of the Course:	**Compulsory**
Mode of Delivery of the Course Unit	**Face to Face**
Coordinator of the Course Unit	**Khalis A. Mohammed**
Instructor(s) of the Course Unit	**Khalis A. Mohammed**

OBJECTIVES AND CONTENTS

Objectives of the Course Unit:	1. To learn the basic techniques and methodologies for designing and analyzing digital systems and how to apply these techniques to build specific circuits. 2. Define the problem (Inputs and Outputs), write its functions 3. Implement functions using Combinational digital circuit. 4. Minimize functions using any type of minimizing algorithms (Boolean algebra, Karnaugh-Map or Tabulation Method). **5.** Have knowledge in analyzing and designing procedures of Combinational digital circuits.
Contents of the Course Unit:	1- Numbers Systems, Operations, and Codes. 2- 2- Logic Gates 3- Boolean Algebra and Logic Simplification 4- Combinational Logic Analysis

Week	KEY LEARNING OUTCOMES OF THE COURSE UNIT On successful completion of this course unit, students/learners will or will be able to dealing with:
1	**1- Numbers Systems, Operations, and Codes**: Decimal Numbers, Binary numbers.
2	**1- Numbers Systems, Operations, and Codes**: Hexadecimal Numbers, Octal numbers.
3	**1- Numbers Systems, Operations, and Codes**: Data representation (integer and fraction) using different number systems. Conversion Between Different Numbers Systems .
4	**1- Numbers Systems, Operations, and Codes:** Arithmetic operations using 9's and 10's Complements of Decimal Numbers. Arithmetic operations using 1's and 2's Complements of Binary Numbers.
5	**1- Numbers Systems, Operations, and Codes:** Signed Numbers, Arithmetic Operations with Signed Numbers.
6	**1- Numbers Systems, Operations, and Codes**: Digital Codes (BCD, Excess-3, Parity, Gray ….. etc.).
7	**2- Logic Gates:** The Inverter (NOT Gate), The AND Gate, The OR Gate.
8	**2- Logic Gates:** The NAND Gate, The NOR Gate, The Exclusive-OR Gate and Exclusive-NOR Gate.
9	**3- Boolean Algebra and Logic Simplification:** Boolean Operations and Expressions.
10	**3- Boolean Algebra and Logic Simplification:** Laws and Rules of Boolean Algebra.
11	**3- Boolean Algebra and Logic Simplification** Simplification Using Boolean Algebra. DeMorgan's theorems.
12	**3- Boolean Algebra and Logic Simplification :** The Karnaugh Map (1, 2 , 3 and 4 variables) , SOP and POS Minimization.
13	**4- Combinational Logic Analysis:** Basic Combinational Logic Circuits.

		Implementing Combinational Logic.
14		**4- Combinational Logic Analysis:** Combinational Logic Using NAND and NOR Gates. Logic Circuit Operation with Pulse Waveform Inputs.
15		**Final Exam**

No.	PRACTICAL PART
1	**Lab 1:** Introduction to digital laboratory kit operation
2	**Lab 2:** Logic Gates (AND, OR, NOT, NAND, NOR).
3	**Lab 3:** Logic Gates (XOR, XNOR).
4	**Lab 4:** Design of (AND, OR, NOT) gates Using NAND gates.
5	**Lab 5:** Design of (AND, OR, NOT) gates Using NOR gates.
6	**Lab 6:** Implementation of logic circuits using NANAD-gate only.
7	**Lab 7:** Implementation of logic circuits using NOR-gate only.
8	**Lab 8:** Implementation of DeMorgan theory, 1st Law
9	**Lab 9:** Implementation of DeMorgan theory, 2nd Law
10	**Lab 10**: Design of a combinational logic circuits . Part 1
11	**Lab 11**: Design of a combinational logic circuits. Part 2
12	**Lab 12**: Realization of Boolean equation. Part 1
13	**Lab 13**: Realization of Boolean equation. Part 2
14	**Lab 14**: Review

WORKLOAD & ECTS CREDITS OF THE COURSE UNIT :	**CTE100**	**DIGITAL LOGIC**	
WORKLOAD FOR LEARNING & TEACHING ACTIVITIES			
TYPE OF THE LEARNING ACTIVITIES	LEARNING ACTIVITIES (# OF WEEK)	DURATION (HOURS, H)	WORKLOAD (H)
Lecture & In-Class Activities	15	2	30
Preliminary & Further Study	4	2	8
Land Surveying	NA	NA	NA
Group Work	5	1	5
Laboratory	14	2	28
Reading	2	3	6
Assignment (Homework)	8	1	8
Project Work	1	3	3
Seminar	3	1	3
Internship	NA	NA	NA
Technical Visit	1	5	5
Web Based Learning	5	2	10
Implementation/Application/Practice	NA	NA	NA
Practice at a workplace	NA	NA	NA
Occupational Activity	NA	NA	NA
Social Activity	NA	NA	NA
Thesis Work	NA	NA	NA
Field Study	NA	NA	NA
Report Writing	8	2	16
Final Exam	1	3	3
Preparation for the Final Exam	1	20	20
Mid-Term Exam	1	2	2
Preparation for the Mid-Term Exam	1	12	12
Short Exam (Quizzes)	8	0.5	4
Preparation for the Short Exam	8	1.5	12
TOTAL WORKLOAD OF THE COURSE UNIT	**86**	**63**	**175**
Workload (h) / 25			**175÷25**
ECTS Credits allocated for the Course Unit			**7**

FUNDAMENTALS OF ELECTRICAL ENGINEERING   Programme Course Description

CODE	NAME OF THE COURSE UNIT	SEMESTER	IN-CLASS HOURS (T+P)	CREDIT	ECTS CREDIT
CTE101	Electrical Engineering Fundamentals	1	4	3	7

GENERAL INFORMATION	
Language of Instruction:	English
Level of the Course Unit:	Bachelor's Degree
Type of the Course:	Compulsory
Mode of Delivery of the Course Unit	Face to Face
Coordinator of the Course Unit	Dr.Maysaloon A. Qasim
Instructor(s) of the Course Unit	Dr.Maysaloon A. Qasim

OBJECTIVES AND CONTENTS	
Objectives of the Course Unit:	To provide the fundamental concept of DC electrical circuits.
Contents of the Course Unit:	1-General Electric System. 2- DC circuits. 3- Network Theorems

Week	KEY LEARNING OUTCOMES OF THE COURSE UNIT On successful completion of this course unit, students/learners will or will be able to dealing with:
1	**1- General Electric System:** Constituent parts of an electrical system (source, load, communication & control), Current flow in a circuit, Electromotive force and potential difference, Electrical units.
2	**1- General Electric System:** Ohm's law, Resistors, Resistivity, Temperature rise & Temperature coefficient of resistance, Voltage & Current sources
3	**2- DC circuits**: Series circuits , Parallel circuits.
4	**2- DC circuits**: Kirchhoff's laws.
5	**2- DC circuits**: Power and energy .
6	**3- Network Theorems:** Star-delta & delta-star transformation
7	**3- Network Theorems:** Sources transformations
8	**3- Network Theorems:** Mesh analysis.
9	**3- Network Theorems:** Nodal analysis.
10	**3- Network Theorems:** Superposition theorem.
11	**3- Network Theorems:** Thevnin's theorem
12	**3- Network Theorems:** Nortan's theorem
13	**3- Network Theorems:** Maximum power transfer theorem.
14	**3- Network Theorems:** Reciprocity theorem
15	**Final Exam**

No.	PRACTICAL PART
1	**Lab 1:** Connection of resistances in series and parallel.
2	**Lab 2:** Verification of Ohm's law using hardware .
3	**Lab 3:** Verification of Ohm's law using digital simulation.
4	**Lab 4:** Verification of Kirchhoff's current law and Voltage law using hardware.
5	**Lab 5:** Verification of Kirchhoff's current law and Voltage law using digital simulation.
6	Lab 6: Determination of mesh currents using hardware.
7	Lab 7: Determination of mesh currents using digital simulation.
8	**Lab 8:** Measurement of nodal voltages using hardware and digital simulation.
9	**Lab 9:** Verification of superposition theorem using hardware .
10	**Lab 10:** Verification of superposition theorem using digital simulation.
11	**Lab 11:** Verification of Thevnin's theorem using hardware.
12	**Lab 12:** Verification of Thevnin's theorem using hardware.
13	**Lab 13:** Verification of Nortan's using hardware.
14	**Lab 14:** Verification of Nortan's using digital simulation.

WORKLOAD & ECTS CREDITS OF THE COURSE UNIT :	CTE101	ELECTRICAL ENGINEERING FUNDAMENTALS	
WORKLOAD FOR LEARNING & TEACHING ACTIVITIES			
TYPE OF THE LEARNING ACTIVITIES	LEARNING ACTIVITIES (# OF WEEK)	DURATION (HOURS, H)	WORKLOAD (H)
Lecture & In-Class Activities	15	2	30
Preliminary & Further Study	4	2	8
Land Surveying	NA	NA	NA
Group Work	5	1	5
Laboratory	14	2	28
Reading	2	3	6
Assignment (Homework)	8	1	8
Project Work	1	3	3
Seminar	3	1	3
Internship	NA	NA	NA
Technical Visit	1	5	5
Web Based Learning	5	2	10
Implementation/Application/Practice	NA	NA	NA
Practice at a workplace	NA	NA	NA
Occupational Activity	NA	NA	NA
Social Activity	NA	NA	NA
Thesis Work	NA	NA	NA
Field Study	NA	NA	NA
Report Writing	8	2	16
Final Exam	1	3	3
Preparation for the Final Exam	1	20	20
Mid-Term Exam	1	2	2
Preparation for the Mid-Term Exam	1	12	12
Short Exam (Quizzes)	8	0.5	4
Preparation for the Short Exam	8	1.5	12
TOTAL WORKLOAD OF THE COURSE UNIT	86	63	175
Workload (h) / 25			**175÷25**
ECTS Credits allocated for the Course Unit			**7**

COMPUTER ORGANIZATION Programme Course Description

CODE	NAME OF THE COURSE UNIT	SEMESTER	IN-CLASS HOURS (T+P)	CREDIT	ECTS CREDIT
CTE102	Computer Organization	1	4	3	4

GENERAL INFORMATION

Language of Instruction:	**English**
Level of the Course Unit:	**Bachelor's Degree**
Type of the Course:	**Compulsory**
Mode of Delivery of the Course Unit	**Face to Face**
Coordinator of the Course Unit	**Mohammed G. Ayoub**
Instructor(s) of the Course Unit	**Mohammed G. Ayoub**

OBJECTIVES AND CONTENTS

Objectives of the Course Unit:	**At the end of this course, following learning objectives are expected to be achieved:** - To understand principles of computer organization and the basic architectural concepts. - To understand the structure, function and characteristics of computer systems. - To understand how the various components of Computer Systems fit together and interact. - To explain the function of each element of a memory hierarchy.
Contents of the Course Unit:	1- Computer Architecture 2- Memory Hierarchy 3- CPU and GPU 4- Computer Bus 5- Semiconductor Memory - Read and Write Operations in Memory 6- Assembly Programming 7- Intel Microprocessors

Week	KEY LEARNING OUTCOMES OF THE COURSE UNIT On successful completion of this course unit, students/learners will or will be able to dealing with:
1	**Introduction to Computer Systems:** Computer Characteristics, Software and Computers Categories
2	**Introduction to Computer Architecture:** Von Neumann and Harvard Architectures
3	**The Memory Hierarchy:** Registers, Caches, Main Memory, Hard Disk and Auxiliary Storage
4	**Average Memory Access Time (AMAT):** Computing AMAT, Cache Miss and Cache Hit
5	**Types of CPU Register and their Functions:** Operations of CPU Registers, Types and Functions
6	**Computer Bus	Types and Functions:** Data Bus, Address Bus, Control Bus, Internal and External Buses
7	**Basics of Semiconductor Memory	Types & Technologies Part I:** Memory Array, Memory Address, Memory Capacity, Read and Write Operations in Memory
8	**Basics of Semiconductor Memory	Types & Technologies Part II:** SRAM, DRAM, RAM Family, ROM Family
9	**Basics of Semiconductor Memory	Types & Technologies Part III:** Flash Memory, Magnetic Storage, Optical Storage and Cloud Storage System
10	**Basic Operation of Processors:** Fetch/Execute Cycle, Pipelining and Processor Elements
11	**Levels of Programming Languages:** Assembly Language and Machine Language
12-14	**Introduction to the Intel Microprocessors:** 4004,8080/8085,8086/8086 80386,80486 and Multicore
15	**Final Exam.**

No.	PRACTICAL PART
1	**Lab 1:** Introduction to Computer System Parts
2	**Lab 2:** Peripherals Devices
3	**Lab 3:** Computer Monitors
4	**Lab 4:** Computer Cables
5	**Lab 5:** Types of Microprocessors
6	**Lab 6:** Types of Memory in Computer System
7	**Lab 7:** Storage in Computer System
8	**Lab 8:** Motherboards and Graphics Card
9	**Lab 9:** Types of Computer Ports
10	**Lab 10:** Computer Software Part I
11	**Lab 11:** Computer Software Part II
12	**Lab 12:** Programming Languages
13	**Lab 13:** Computer Networks
14	**Lab 14:** Review

WORKLOAD & ECTS CREDITS OF THE COURSE UNIT :	CTE102	COMPUTER ORGANIZATION	
WORKLOAD FOR LEARNING & TEACHING ACTIVITIES			
TYPE OF THE LEARNING activities	LEARNING ACTIVITIES (# OF WEEK)	DURATION (HOURS, H)	WORKLOAD (H)
Lecture & In-Class Activities	**15**	**2**	**30**
Preliminary & Further Study	NA	NA	NA
Land Surveying	NA	NA	NA
Group Work	NA	NA	NA
Laboratory	**14**	**2**	**28**
Reading	NA	NA	NA
Assignment (Homework)	**6**	**2**	**12**
Project Work	NA	NA	NA
Seminar	NA	NA	NA
Seminar Preparation	NA	NA	NA
Technical Visit	NA	NA	NA
Web Based Learning	NA	NA	NA
Implementation/Application/Practice	NA	NA	NA
Practice at a workplace	NA	NA	NA
Occupational Activity	NA	NA	NA
Social Activity	NA	NA	NA
Thesis Work	NA	NA	NA
Field Study	NA	NA	NA
Report Writing	**5**	**1**	**5**
Final Exam	**1**	**3**	**3**
Preparation for the Final Exam	**1**	**6**	**6**
Mid-Term Exam	**1**	**2**	**2**
Preparation for the Mid-Term Exam	**1**	**3**	**3**
Short Exam (Quizzes)	**8**		
Preparation for the Short Exam	**8**	**0.5**	**4**
TOTAL WORKLOAD OF THE COURSE UNIT	**60**	**21.5**	**100**
Workload (h) / 25			**100÷25**
ECTS Credits allocated for the Course Unit			**4**

ENGINEERING DRAWING   Programme Course Description

CODE	NAME OF THE COURSE UNIT	SEMESTER	IN-CLASS HOURS (T+P)	CREDIT	ECTS CREDIT
CTE103	Engineering Drawing	1	3	2	3

GENERAL INFORMATION

Language of Instruction:	**English**
Level of the Course Unit:	**Bachelor's Degree**
Type of the Course:	**Compulsory**
Mode of Delivery of the Course Unit	**Face to Face**
Coordinator of the Course Unit	**Naqaa L. Mohammed**
Instructor(s) of the Course Unit	**Naqaa L. Mohammed**

OBJECTIVES AND CONTENTS

Objectives of the Course Unit:	1. Define engineering drawing material, its uses and Engineering drawing tools 2. Introduction to Engineering drawing through AutoCAD software 3. Developing the student's mental and abilities in drawing simple and complex shapes Decomposes 3D shapes into binary projections
Contents of the Course Unit:	1- Introduction to AutoCAD software 2- Draw menu 3- modify menu 4- Layers and properties 5- projection 6- stereoscopic shapes

Week	KEY LEARNING OUTCOMES OF THE COURSE UNIT On successful completion of this course unit, students/learners will or will be able to dealing with:
1	-Get a quick introduction to AutoCAD -Drawing Setup in AutoCAD -Use precision drawing tools such as Grid, Object Snap, and Limits to create accurate measurements in drawings.
2	Coordinate method (Direct distance method, Absolute coordinate, Relative coordinate, Polar coordinate)
3	Draw menu (line, poly line, polygon, rectangle).
4	Drawing objects of Pentagonal, hexagonal and octagonal shapes
5	Draw menu (arc, circle, ellipse, point and text).
6	Draw several shapes containing circles and texts
7	Modify menu (erase, copy, mirror, move offset,)
8	Modify menu (rotate, trim, extend, explode)
9	Properties and Layers in AutoCAD and dimension
10	Orthographic projection
11	Draw the three projection(front, side and top) of some shapes
12	Basics of drawing stereoscopic shapes
13	Draw stereoscopic shape
14	Printing the graphic
15	**Final Exam**

No.	PRACTICAL PART
1	**Lab 1:** Definition of AutoCAD interface
2	**Lab 2:** Applications of Coordinate method
3	**Lab 3:** Draw figures of lines, polygons and rectangle
4	**Lab 4:** Drawing objects of Pentagonal, hexagonal and octagonal shapes
5	**Lab 5:** Drawing figures of circles and ellipse
6	**Lab 6:** Draw several shapes containing circles and texts
7	**Lab 7:** Applications of some order in modify menu
8	**Lab 8:** Applications of other order in modify menu
9	**Lab 9:** Practicing of using layers
10	**Lab 10:** Practicing of projection of simple figure
11	**Lab 11:** Draw three projection of figure
12	**Lab 12:** Practicing of drawing stereoscopic shapes
13	**Lab 13:** Draw stereoscopic shape
14	**Lab 14:** Practicing of Printing the graphic

WORKLOAD & ECTS CREDITS OF THE COURSE UNIT :	CTE103 ENGINEERING DRAWING		
WORKLOAD FOR LEARNING & TEACHING ACTIVITIES			
TYPE OF THE LEARNING ACTIVITES	LEARNING ACTIVITIES (# OF WEEK)	DURATION (HOURS, H)	WORKLOAD (H)
Lecture & In-Class Activities	14	1	14
Preliminary & Further Study	NA	NA	NA
Land Surveying	NA	NA	NA
Group Work	NA	NA	NA
Laboratory	14	2	28
Reading	NA	NA	NA
Assignment (Homework)	5	1	5
Project Work	1	1	1
Seminar	NA	NA	NA
Internship	NA	NA	NA
Technical Visit	NA	NA	NA
Web Based Learning	NA	NA	NA
Implementation/Application/Practice	NA	NA	NA
Practice at a workplace	NA	NA	NA
Occupational Activity	NA	NA	NA
Social Activity	NA	NA	NA
Thesis Work	NA	NA	NA
Field Study	NA	NA	NA
Report Writing	NA	NA	NA
Final Exam	1	3	3
Preparation for the Final Exam	1	10	10
Mid-Term Exam	1	2	2
Preparation for the Mid-Term Exam	1	5	5
Short Exam (Quizzes)	4	1	4
Preparation for the Short Exam	3	1	3
TOTAL WORKLOAD OF THE COURSE UNIT	45	27	75
Workload (h) / 25			75÷25
ECTS Credits allocated for the Course Unit			3

DEMOCRACY AND HUMAN RIGHTS   Programme Course Description

CODE	NAME OF THE COURSE UNIT	SEMESTER	IN-CLASS HOURS (T+P)	CREDIT	ECTS CREDIT
NTU100	Democracy and Human Rights	1	2	2	2

GENERAL INFORMATION

Language of Instruction:	**Arabic**
Level of the Course Unit:	**Bachelor's Degree**
Type of the Course:	**Compulsory**
Mode of Delivery of the Course Unit	**Face to Face**
Coordinator of the Course Unit	**Dr .Eesha I. Mohammed**
Instructor(s) of the Course Unit	**Dr .Eesha I. Mohammed**

OBJECTIVES AND CONTENTS

Objectives of the Course Unit:	**أهداف مادة حقوق الانسان والديمقراطية:** تعريف الطالب بحقوق الانسان والديمقراطية ومضامينها وتصنيف الحريات العامة
Contents of the Course Unit:	**المحتويات:** تعريف الطالب على مفهوم الحقوق والديمقراطية على الصعيد الوطني والاقليمي والعالمي

Week	KEY LEARNING OUTCOMES OF THE COURSE UNIT On successful completion of this course unit, students/learners will or will be able to dealing with:
1	حقوق الانسان ، تعريفها ، اهدافها حقوق الانسان في الحضارات القديمة وخصوصا حضارة وادي الرافدين
2	حقوق الانسان في الشرائع السماوية مع التركيز على حقوق الانسان في الاسلام
3	حقوق الانسان في التاريخ المعاصر والحديث : الاعتراف الدولي بحقوق الانسان منذ الحرب العالمية الأولى وعصبة الامم المتحدة
4	الاعتراف الاقليمي بحقوق الانسان : الاتفاقية الاوربية لحقوق الانسان 1950 ، الاتفاقية الامريكية لحقوق الانسان 1969 ، الميثاق الافريقي لحقوق الانسان 1981 ، الميثاق العربي لحقوق الانسان 1994
5	حقوق الانسان الحديثة : الحقائق في التنمية ، الحق في البيئة النظيفة ، الحق في التضامن ، الحق في الدين حقوق الانسان ، المنظمات الوطنية لحقوق الانسان)
6	حقوق الانسان في الدساتير العراقية بين النظرية والواقع
7	حقوق الانسان الاقتصادية والاجتماعية والثقافية و حقوق الانسان المدنية والسياسية
8	حقوق الانسان الحديثة : الحقائق في التنمية ، الحق في البيئة النظيفة ، الحق في التضامن ، الحق في الدين
9	ضمانات احترام وحماية حقوق الانسان على الصعيد الوطني ، الضمانات في الدستور والقوانين. الضمانات في الرقابة الدستورية ، الضمانات في حرية الصحافة والرأي العام ، دور المنظمات غير الحكومية في احترام وحماية حقوق الانسان
10	ضمانات واحترام وحماية حقوق الانسان على الصعيد الدولي : – دور الأمم المتحدة ووكالاتها المتخصصة في توفير الضمانات – دور المنظمات الاقليمية (الجامعة العربية ، الاتحاد الأوربي ، الاتحاد الافريقي ، منظمة الدول الأمريكية ، منظمة آسيان) دور المنظمات الدولية الاقليمية غير الحكومية والرأي العام في احترام وحماية حقوق الانسان
11	مصطلح الديمقراطية ، نشأته، دلالته، تاريخ الديمقراطية.
12	الاسلام والديمقراطية ومساوئ الحكم الاستبدادي .
13	الانتقادات الموجهة للديمقراطية، ومحاسن النظام الديمقراطي.
14	الأنظمة الديمقراطية في العالم/الديمقراطية في العالم الثالث/ المشاكل التي تواجه البلدان العربية في التحول الديمقراطي
15	الامتحان النهائي

WORKLOAD & ECTS CREDITS OF THE COURSE UNIT :	NTU100	DEMOCRACY AND HUMAN RIGHTS	
WORKLOAD FOR LEARNING & TEACHING ACTIVITIES			
TYPE OF THE LEARNING ACTIVITES	LEARNING ACTIVITIES (# OF WEEK)	DURATION (HOURS, H)	WORKLOAD (H)
Lecture & In-Class Activities	14	2	28
Preliminary & Further Study	NA	NA	NA
Land Surveying	NA	NA	NA
Group Work	NA	NA	NA
Laboratory	NA	NA	NA
Reading	6	0.5	3
Assignment (Homework)	NA	NA	NA
Project Work	NA	NA	NA
Seminar	NA	NA	NA
Internship	NA	NA	NA
Technical Visit	NA	NA	NA
Web Based Learning	NA	NA	NA
Implementation/Application/Practice	NA	NA	NA
Practice at a workplace	NA	NA	NA
Occupational Activity	NA	NA	NA
Social Activity	NA	NA	NA
Thesis Work	NA	NA	NA
Field Study	NA	NA	NA
Report Writing	NA	NA	NA
Final Exam	1	3	3
Preparation for the Final Exam	1	10	10
Mid-Term Exam	1	2	2
Preparation for the Mid-Term Exam	1	5	5
Short Exam (Quizzes)	3	0.5	1.5
Preparation for the Short Exam	3	0.5	1.5
TOTAL WORKLOAD OF THE COURSE UNIT	30	23.5	54
Workload (h) / 25			54÷25
ECTS Credits allocated for the Course Unit			2

ENGLISH LANGUAGE Programme Course Description

CODE	NAME OF THE COURSE UNIT	SEMESTER	IN-CLASS HOURS (T+P)	CREDIT	ECTS CREDIT
NTU101	English Language	2	2	2	2

GENERAL INFORMATION

Language of Instruction:	**English**
Level of the Course Unit:	**Bachelor's Degree**
Type of the Course:	**Compulsory**
Mode of Delivery of the Course Unit	**Face to Face**
Coordinator of the Course Unit	**Dr. Younis Anas Younis**
Instructor(s) of the Course Unit	**Dr. Younis Anas Younis**

OBJECTIVES AND CONTENTS

Objectives of the Course Unit:	Introduce the student to general English through reading, writing, listening, and speaking.
Contents of the Course Unit:	Grammar, Vocabulary, Reading, Speaking, Listening, and Everyday English

Week	KEY LEARNING OUTCOMES OF THE COURSE UNIT On successful completion of this course unit, students/learners will or will be able to dealing with:
1	**Grammar:** Tenses, Questions, Questions words **Vocabulary:** Using a bilingual dictionary, Parts of speech, and Words with more than one meaning. **Everyday English:** Social expressions.
2	**Reading:** the many ways we communicate **Speaking:** Information gap **Listening:** Neighbors
3	**Grammar:** Present tenses: Present Simple, Present Continuous, have/have got **Vocabulary:** Describing countries, Collocation **Everyday English:** Making conversation
4	**Reading:** three people talk about their experiences **Speaking:** people's lifestyles **Listening:** what annoys you about the people in your life?
5	**Grammar:** Past tenses: Past Simple, Past Continuous **Vocabulary:** Irregular verbs, making connections, Nouns, verbs, and adjectives, Making negatives. **Everyday English:** Time expressions
6	**Reading:** Newspaper stories **Speaking:** Telling stories **Listening:** A radio drama
7	**Grammar:** Quantity, Articles **Vocabulary:** Buying things **Everyday English:** Prices and shopping
8	**Reading:** 'The best shopping street in the world' **Speaking**: Town survey, attitudes to shopping **Listening**: Buying things
9	**Grammar:** Verb patterns 1, Future intentions **Vocabulary:** Hot verbs **Everyday English:** How do you feel?
10	**Reading:** Hollywood kids **Speaking:** Being a teenager **Listening:** You've got a friend
11	**Grammar:** Comparative and superlative adjectives **Vocabulary:** Synonyms and antonyms **Everyday English:** Directions
12	**Reading:** 'A Tale of two millionaires' **Speaking:** comparing cities **Listening:** Living in another country
13	**Grammar:** Present Perfect and Past Simple **Vocabulary:** Past participles, Adverbs, Word pairs **Everyday English:** Short answers
14	**Reading:** Celebrity interview **Speaking:** Roleplay **Listening:** An interview with the band

15	Final Exam

WORKLOAD & ECTS CREDITS OF THE COURSE UNIT :	NTU101 ENGLISH LANGUAGE		
WORKLOAD FOR LEARNING & TEACHING ACTIVITIES			
TYPE OF THE LEARNING ACTIVITIES	LEARNING ACTIVITIES (# OF WEEK)	DURATION (HOURS, H)	WORKLOAD (H)
Lecture & In-Class Activities	14	2	28
Preliminary & Further Study	NA	NA	NA
Land Surveying	NA	NA	NA
Group Work	2	1	2
Laboratory	NA	NA	NA
Reading	NA	NA	NA
Assignment (Homework)	2	1	2
Project Work	NA	NA	NA
Seminar	2	1	2
Internship	NA	NA	NA
Technical Visit	NA	NA	NA
Web Based Learning	1	1	1
Implementation/Application/Practice	NA	NA	NA
Practice at a workplace	NA	NA	NA
Occupational Activity	NA	NA	NA
Social Activity	NA	NA	NA
Thesis Work	NA	NA	NA
Field Study	NA	NA	NA
Report Writing	2	1	2
Final Exam	1	3	3
Preparation for the Final Exam	1	3	3
Mid-Term Exam	1	2	2
Preparation for the Mid-Term Exam	1	2	2
Short Exam (Quizzes)	2	0.5	1
Preparation for the Short Exam	2	1	2
TOTAL WORKLOAD OF THE COURSE UNIT	31	18.5	50
Workload (h) / 25			50÷25
ECTS Credits allocated for the Course Unit			2

<p align="center">**MATHEMATICS**   Course Description</p>

CODE	NAME OF THE COURSE UNIT	SEMESTER	IN-CLASS HOURS (T+P)	CREDIT	ECTS CREDIT
TECCAI100	**Mathematics**	1	3	3	5

GENERAL INFORMATION

Language of Instruction:	**English**
Level of the Course Unit:	**Bachelor's Degree**
Type of the Course:	**Compulsory**
Mode of Delivery of the Course Unit	**Face to Face**
Coordinator of the Course Unit	**Ayhan Ahmed Khaleel**
Instructor(s) of the Course Unit	**Ayhan Ahmed Khaleel**

OBJECTIVES AND CONTENTS	Help the student to understand the laws and issues necessary for the purpose of solving simple and complex electrical circuits.
Objectives of the Course Unit:	To learn the
Contents of the Course Unit:	1- Matrix and Determinants 2- Review of Functions 3- Derivatives 4- Integration

Week	KEY LEARNING OUTCOMES OF THE COURSE UNIT On successful completion of this course unit, students/learners will or will be able to dealing with:
1	Matrix, properties, and operations
2	Determinants and properties of determinants Inverse of square matrix by determinants
3	Solving linear System equations using the inverse of the coefficient matrix and Cramer's rule
4	Algebraic functions
5	Review of natural logarithm, the exponential function, trigonometric functions
6	inverse trigonometric functions and hyperbolic functions
7	Derivatives formula and chain rule.
8	Derivatives of natural logarithm, the exponential function, trigonometric functions
9	inverse trigonometric functions and hyperbolic functions.
10	Applications of differentiation.
11	Review of Integration, Indefinite and Definite Integral
12	Integration method
13	Integration method
14	Applications of integration, approximation(trapezoidal rule, Simpson's rule) Area between curves
15	**Final Exam**

WORKLOAD & ECTS CREDITS OF THE COURSE UNIT :	**TECCAI100**		MATHEMATICS
WORKLOAD FOR LEARNING & TEACHING ACTIVITIES			
TYPE OF THE LEARNING ACTIVITES	LEARNING ACTIVITIES (# OF WEEK)	DURATION (HOURS, H)	WORKLOAD (H)
Lecture & In-Class Activities	15	3	45
Preliminary & Further Study	NA	NA	NA
Land Surveying	NA	NA	NA
Group Work	NA	NA	NA
Laboratory	NA	NA	NA
Reading	NA	NA	NA
Assignment (Homework)	13	1	13
Project Work	NA	NA	NA
Seminar	NA	NA	NA
Internship	NA	NA	NA
Technical Visit	NA	NA	NA
Web Based Learning	5	2	10
Implementation/Application/Practice	NA	NA	NA
Practice at a workplace	NA	NA	NA
Occupational Activity	NA	NA	NA
Social Activity	NA	NA	NA
Thesis Work	NA	NA	NA
Field Study	NA	NA	NA
Report Writing	NA	NA	NA
Final Exam	1	3	3
Preparation for the Final Exam	1	20	20
Mid-Term Exam	1	2	2
Preparation for the Mid-Term Exam	1	16	16
Short Exam (Quizzes)	8	0.5	4
Preparation for the Short Exam	8	1.5	12
TOTAL WORKLOAD OF THE COURSE UNIT	**53**	**49**	**125**
Workload (h) / 25			**125÷25**
ECTS Credits allocated for the Course Unit			**5**