Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies - 10th of Ramadan



وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Mathematics (4)		
Course Code	BAS 211		
Academic Year	2022-2023		
Coordinator	Dr. Gamal El-Anani		
Teaching Staff	Dr. Gamal El-Anani		
Level	Level (1)		
Semester	First Term		
Number of Weekly	Lecture	2	
Contact Hours	Tutorial	2	
	Lab	0	
Department offering the	Electronics as	nd Communications Engineering,	
program	 Computers a 	nd Systems Engineering,	
	Communications and Computer Engineering		
Department offering the	Basic Science		
course			
O. Att. of the control			

2- Aim of the course

- 1. Understand the concept of complex numbers.
- 2. Understand the methods to solve the differential calculus of complex functions.
- 3. Understand the Cauchy' theorems to complex integrals.
- 4. Be familiar with Gamma, Beta Functions.
- 5. Understand the methods to find the eigenvalues, eigenvectors.
- 6. Be familiar with Laplace transformations, and its applications

	A.1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.							
General	A.2. Develop and conduct appropriate experimentation are simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineer judgment to draw conclusions							
Level A – General	effective solution for global, cultuother aspects a	engineering design processes to produce cost- olutions that meet specified needs with consideration cultural, social, economic, environmental, ethical and cts as appropriate to the discipline and within the and contexts of sustainable design and development.						
		A.5. Practice research techniques and methods of investigation as an inherent part of learning.						
Level B - Speciality								
4- Course Contents	Matrices – Special Fu	nctions (GAMA – – geometric approa	es — Matrices — Eigenvalue BETA — LEGANDERE aches — mathematical mod imerical	– BESSEL)-system of				
	Methods – Linear Sys Differential Equations		- Vector Spaces - Higher	r – Order Linear				
	Linear Systems Of Di Systems –	fferential Equation	s – Matrix Exponential M	lethods – Nonlinear				
	Solution Of ordinary differential equations using Laplace Methods.							
# Topic		Lecture	Tutorial/Practical	No of hours				
Matrices – E	Functions of complex variables – Matrices – Eigenvalues – Eigenvectors of Matrices 4 8							
BETA – LE BESSEL)-sy	Special Functions (GAMA – BETA – LEGANDERE – BESSEL)-system of differential equations – geometric approaches 6 12							

- mathematical modeling o	f real						
– world phenomena –							
Mathematical Models –Nun	nerical						
Tyladicinatical tylodelly 1 (di	icricar						
Methods – Linear Systems a	ınd						
Matrices – Vector Spaces –							
Higher – Order Linear Diffe	rential	8 8 16					
· ·	aciitai						
Equations							
Linear Systems Of Differen	io1						
_				12			
Equations – Matrix Exponen		6	6	12			
Methods – Nonlinear System	ns –						
Solution Of ordinary differe	ntial						
equations using Laplace Me		4	4	8			
equations using Euplace ivic	tilous.						
Total sum		28	28	56			
		1 T	 				
5- Teaching and learning		· ·	line/in class)				
methods		2. Discussion					
		3. Tutorial					
		4. Problem solving					
		5. Brain storm	ing				
		6. Projects					
		7. Self-learnin	_				
		8. Research and Reporting					
		9. Computer Simulation					
		10. Teamwork					
6- Teaching and learning		 Additional T 					
methods for disable studer	its		ires and assignments				
		•	ny audio/visual aids as	•			
		4. Providing ex	ktra opportunities for p	ractice			
7- Teaching and learning		1. Assign a por	tion of the office hours	for those students and			
methods for low capacity		2. provide the	m with specific tailored	tasks.			
students		3. Repeat the explanation of some of the material and					
		tutorials.					
		4. Assign a teaching assistance to follow up their					
		performanc	_	•			
8- Teaching and learning		<u> </u>	se project tasks to those	e students.			
methods for outstanding		_					
_		2. Give them advanced extra-curriculum topics.3. Encourage them to take part in a pilot research and case					
students	studies.						
		Judies.					
9- Students assessment							
a- Assessment	1. M	id Term Examina	tion (written/ online)				
methods		Practical Examination					
meulous		ral Examination	-				
		ral Examination prmative (quizzes- presentation -reports)					
			•)			
	5. Fi	nal Term Examina	ation (written)				

b- Assessment schedule	- Exercise sheet/ Lab assignment :	Weekly			
	- Quizz-1:	Week no. 5			
	- Mid-Term exam:	Week no . 8			
	- Quizz-2:	Week no. 12			
	- Final – term examination:	Week no. 16			
c- Weighting of	- Class tutorial and quizzes :	10 %			
assessment	- Mid-term examination:	20 %			
	- Final – term examination:	70 %			
	Total	100 %			
10- List of text books and re	ferences:				
a- Course notes	There are lectures notes prepared in the form of a book				
	authorized by the department.				
b- Text books/ References	Swokowski, E, Olinick ,M and Pence, D., Calculus, PWS Publishing				
•	Company - Boston, 1994.				
	 Mary Attenborough, Engineering Mathematics, McGraw - HILL 				
	Book Company Europe, 1994.				
	Anthony croft, Robert Davison, Engineering Mathematics A modern				
	Foundation for Electrical, Electronic & Control Engineering,				
	Addison - Wesley - Publishing Company, 1992.				
c- Periodicals, Web sites	Web Sites related to Mathematics and	d Mathematical engineering as:			
etc	www.math.hmc.edu,				
	www.tutorial.math.lamar.edu,				
	www.web.mit.edu				

11-Course contents – Course related program competencies					
		Lev	el A		
	A.1	A.2	A.3	A.5	
Functions of complex variables – Matrices – Eigenvalues – Eigenvectors of Matrices	1				
Special Functions (GAMA – BETA – LEGANDERE – BESSEL)-system of differential equations – geometric approaches – mathematical modeling of real – world phenomena – Mathematical Models –Numerical	1	1		1	
Methods – Linear Systems and Matrices – Vector Spaces – Higher – Order		1	1		

Linear Differential Equations				
Linear Systems Of Differential Equations – Matrix Exponential Methods – Nonlinear Systems	1	1	1	
Solution Of ordinary differential equations using Laplace Methods			1	

12-Teaching and learning methods - Course related program competencies					
	Level A				
	A.1	A.2	A.3	A.5	
Lecture (online/in class)	1	1	1	1	
Discussion	1	1	1	1	
Tutorial	1	1	1	1	
Problem solving	1	1	1	1	
Brain storming	1	1	1	1	
Projects	1	1	1	1	
Self-learning		1			
Research and Reporting			1		
Computer Simulation					
Teamwork					

13- Assessment methods - Course related program competencies						
Assessment methods Course related program comptencies						
			Leve	el A		
	,	A.1	A.2	A.3	A.5	
Mid Term Examination (written/ online)		1	1	1	1	
2. Practical Examination						
3. Oral Examination						
4. Formative (quizzes- presentation -repor	ts)	1	7	1	√	

5. Final Term Examination (written		٧	√	1 1
Authorized from board of the de Course coordinator:		022		
Dr. Gamal El-Anany	40	MEE STEEL		

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وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Electrical Machines &Transformers		
Course Code	ELP 212		
Academic Year	2022-2023		
Coordinator	Assoc. Prof. Saad Awad Mohamed Abdelwahab		
Teaching Staff	Assoc. Prof. Saad Awad Mohamed Abdelwahab		
Level	Level (2)		
Semester	First Term		
Number of Weekly	Lecture 2		
Contact Hours	Tutorial 2		
	Lab 1		
Department offering the	 Electronics and Communications Engineering, 		
program	 Computers and Systems Engineering, 		
	 Communications and Computer Engineering 		
Department offering the	Electronics Engineering and Electrical		
course	Communication.		
	 Computers and Systems Engineering. 		
2 Aire of the course			

2- Aim of the course

- 1. To introduce students to concepts of Direct Current Machines, Armature Winding.
- 2. To teach Open Circuit and Short Circuit Tests of Single Phase Transformers.
- 3. To provide students with Three Phase and Multi Winding Transformer Connections for Three -Phase Circuits.
- 4. To provide students with the basics of Characteristics of Separately excited, Shunt and Compound DC Generators and Motors.
- 5. To equip students with Separation of Iron, Friction Losses and Estimation of Parameters of DC Machines.
- 6. Training students on practical experiences in electrical machines.

Level A – General	 A.1 Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics. A.3 Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development A.4 Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.
Level B - Speciality	 B.1 Select, model and analyze electrical power systems applicable to the specific discipline by applying the concepts of: generation, transmission and distribution of electrical power systems. B.2 Design, model and analyze an electrical/electronic/digital system or component for a specific application; and identify the tools required to optimize this design. B.3 Design and implement elements, modules, sub-systems, or systems in electrical/electronic/digital engineering using technological and professional tools. B.4 Estimate and measure the performance of an electrical / electronic/digital system and circuit under specific input excitation and evaluate its suitability for a specific application. B.5 Adopt suitable national and international standards and codes to design, build, operate, inspect, and maintain electrical/electronic/digital equipment, systems, and services.
4- Course Contents	Direct Current Machines, Armature Winding, Armature Reaction and Commutation, Methods of Excitation, Characteristics of DC Generators, Load Characteristics of DC Motors, Speed Control of DC Motors, Construction of Single phase Transformers, Equivalent Circuits, Determination of Transformer Parameters, Voltage Regulation, Efficiency, Autotransformers, Poly - phase Transformers and Their Connections. الآت التيار المستمر، ملفات عضو الانتاج، رد فعل عضو الاناج، طرق الإثارة للمولد، خصائص الحمل لمحركات التيار المستمر، التحكم في سرعة محركات التيار المستمر، بناء المحولات أحادية الطور، الدوائر المكافئة، تحديد متغيرات المحولات، تنظيم الجهد، الكفاءة، المحولات الأوتوماتيكية، المحولات متعددة الطور واتصالاتها.

# Topic	Lecture	Tutorial/Practical	No of hours		
Explain concepts of principle Direct Current Machines, Armature Winding, Armature Reaction and Commutation, Methods of Excitation, Characteristics of DC Generators, Load Characteristics of DC Motors, Speed Control of DC Motors	8	12	20		
Construction of Single phase Transformers, Equivalent Circuits	6 9 15				
Determination of Transformer Parameters, Voltage Regulation, Efficiency,	6	15			
Autotransformers, Poly - phase Transformers and Their Connections	8	20			
Total sum	28	42	70		
5- Teaching and learning methods	 Lecture (online/in class) Discussion Tutorial Problem solving Brain storming Projects Self-learning Research and Reporting Computer Simulation Teamwork 				
6- Teaching and learning methods for disable students	 Additional Tutorials Online lectures and assignments Using as many audio/visual aids as possible. Providing extra opportunities for practice 				
7- Teaching and learning methods for low capacity students	 Assign a por and provide the 	tion of the office hour m with specific tailored explanation of some of	s for those students d tasks.		

8- Teaching and learning methods for outstanding students 9- Students assessment	tutorials. 4. Assign a teaching assistance to follow up their performance 5. Guidance for distance learning 6. Making small projects to facilitate the science material 1. Assign course project tasks to those students. 2. Give them advanced extra-curriculum topics. 3. Encourage them to take part in a pilot research and case studies.				
a Assassment	Mid Term Examination (written/ online)				
a- Assessment methods	Practical Examination				
metnoas	3. Oral Examination				
	4. Formative (quizzes- presentation -reports)				
	5. Final Term Examination (written)				
b- Assessment schedule	- Exercise sheet/ Lab assignment : Weekly				
	- Quizz-1: Week no. 4				
	- Quizz-1: Week no. 4				
	- Mid-Term exam: Week no . 8				
	- Quizz-2: Week no. 12				
	- Final – term examination: Week no. 16				
c- Weighting of	- Class tutorial and quizzes : 20 %				
assessment	- Mid-term examination: 20 %				
	- Final – term examination: 60 %				
	Total 100 %				
10- List of text books and re	ferences:				
a- Course notes	There are lectures notes prepared in the form of a book				
b- Text books/ References	 G. R. Slemon and A. Straughen, Electric Machines, Addison Wesley Publishing Company, 1980. J. Rosenblatt and M. H. Friedman, Direct and Alternating Current Machinery, Charles E. Merrill Publishing Company, A Bell& Howell Company, 2nd. Ed., 1984. 				
c- Periodicals, Web sites etc	https://www.amazon.com/Direct-Alternating-Current-Machinery-2nd/dp/0675201608				

11-Course contents – Course related program competencies					
	Level A	Level B			

	A.1	A.3	A.4	B.1	B.2	B.3	B.4	B.5
Explain concepts of principle Direct Current Machines, Armature Winding, Armature Reaction and Commutation, Methods of Excitation, Characteristics of DC Generators, Load Characteristics of DC Motors, Speed Control of DC Motors	1	1	1		√	1		
Construction of Single phase Transformers, Equivalent Circuits	1	1	1		1	√	√	V
Determination of Transformer Parameters, Voltage Regulation, Efficiency,	1	1	1		1	1	1	1
Autotransformers, Poly - phase Transformers and Their Connections	1	1	1	√	1	1	√	1

12-Teaching and learning methods - Course related program competencies									
	Level A				Level	В	I_		
	A.1	A.3	A.4		B.1	B.2	B.3	B.4	B.5
Lecture (online/in class)		1	1		1	1	1		
Discussion	1	1	1		1			1	1
Tutorial		1	1		1			1	1
Problem solving	1		1		1	1	1	1	1
Brain storming	1	1	1		1	1	1	1	1
Projects					1	1			1
Self-learning	1		1		1	1	1	1	1
Research and Reporting	1		1		1			1	1
Computer Simulation	1		1		1			1	1
Teamwork	1	1	1		1	1	1	1	1

13- Assessment methods - Course related program competencies									
Assessment methods	Course related program comptencies								
	Leve	IA			Level	В			
	A.1 A.3 A.4				B.1	B.2	B.3	B.4	B.5
Mid Term Examination (written/ online)	1	1	1			1	1		
Practical Examination	1	1				1		1	1
Oral Examination		1			1	1		1	1
Formative (quizzes- presentation -reports)					1	1			
Final Term Examination (written	1	1	1		1	1	1	1	1

Dr Saad Awad M. Abdelwahab



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Course Specification

1- Basic Information

Electromagnetic Fiel	lds				
ELP 213					
2022-2023					
Dr. Essam A. Alim Gon	nah Elaraby				
Dr. Essam A. Alim Gon	nah Elaraby				
Level (2)					
First Term					
Lecture	2				
Tutorial	2				
Lab	0				
Electronics and	Communications Engineering,				
Computers and	Systems Engineering,				
Communications and Computer Engineering					
Electronics Engineeri	ng and Electrical Communication				
	ELP 213 2022-2023 Dr. Essam A. Alim Gon Dr. Essam A. Alim Gon Level (2) First Term Lecture Tutorial Lab				

2- Aim of the course

- 1. To provide the students with the basic theories and definitions of electric and electrostatic fields and their applications in the real world.
- 2. To provide the students with the basic theories and definitions of magnetic fields and their practical applications.
- 3. To provide the students with the basic theories and definitions of electromagnetic fields and to understand wave propagation, transmission and reflection in space and media as well as their practical applications.
- 4. To enhance students' ability to apply the vector mathematical analysis to analyze and understand the theories and related applications of electrostatic and electromagnetic fields.
- 5. To equip students with the application of Poisson's equation, Laplace's equation, and Maxwell's equations
- 6. To familiarize students with the characteristics of radio frequency transmission lines and the application of Smith chart.

Level A – General

- A.1 Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.
- A.5 Practice research techniques and methods of investigation as an inherent part of learning.
- A.8 Communicate effectively graphically, verbally and in writing with a range of audiences using contemporary tools

+Level B -Speciality

- B.2 Design, model and analyze an electrical/electronic/digital system or component for a specific application; and identify the tools required to optimize this design.
- B.5 Adopt suitable national and international standards and codes to design, build, operate, inspect, and maintain electrical/electronic/digital equipment, systems, and services.

4-Course Contents

Vector Analysis, Coordinate Systems and Transformation, Coulomb's Law, Electric Field Intensity due to line charge and sheet of charge, Streamlines and Sketches of Fields, Electric flux density, Gauss Law and Applications, Maxwell's First Equation, Divergence Operator, Energy and Potential, Line Integration, Potential Gradient, Electric Dipole, Energy density in Electrostatic Fields. Applications of Electrostatics, Conductors, Dielectrics and Semiconductors Properties, Current density and Continuity of current, Boundary conditions, Method of Images, Capacitance, Capacitance of Two - Wire Line, Experimental Mapping, Poisson's and Laplace's Equations, Example of the solution of Poisson's equation, Steady magnetic field; Biot Savart and Ampere circuital laws, Magnetic Forces, Torque, Magnetic Materials, Calculation of Self and Mutual inductance, Time Varying Field and Maxwel's Equations, Uniform Plane Wave; the transverse Electromagnetic (TEM) Wave, Poynting theorem, Transmission and Reflection of TEM Wave Through Non-Homogenous Media, Transmission Lines; Primary and Secondary Constants of Transmission Lines, Transmission Line Equivalent Circuits, Characteristics of Radio Frequency Transmission Lines - Applications of Smith Chart.

# Topic	Lecture	Tutorial/Practical	No of hours
Revision on vector analysis, vector algebra, various types of coordinates.	2	2	4
Introduction of Coulombs law and electric field intensity, field distribution of point, line, volume, and sheet	2	<mark>2</mark>	4

charges.			
Explaining Electric flux density, discussing Gauss law, and Maxwell's first equation and their applications.	2	2	4
Explaining energy and potential, the potential field of point charge, as well as a system of charges, defining the potential gradient, and the electric dipole.	4	4	8
Discussing the electrostatic fields in conductors and dielectric materials, as well as the electrostatic field in the capacitors, discussing Poisson's and Laplace's equations.	2	2	4
Presenting and explaining the steady magnetic field, and the related topics of Ampere's circuital law, and Biot-Savart law, defining the vector magnetic field potentials, magnetic flux and magnetic flux density,	4	4	8
Differentiating between the magnetic forces, explaining the force and the torque, the magnetization and permeability, the closed magnetic circuit.	4	4	8
Studying Maxwell equations, the magnetic fields in transmission lines, the graphical	4	4	8

methods and Smith of analysis.	chart						
The electromagnetic waves of uniform plan waves, and the plan wave reflection and disprsion.	ane e	4	4	8			
Total sum		28	28	56			
5- Teaching and learn methods	ning	 Lecture (online Discussion Tutorial Problem solvin Brain storming Self-learning 	ng				
6- Teaching and learn methods for disable students		 Additional Tut Online lecture Using as many Providing extra 	s and assignments audio/visual aids as possi a opportunities for practic	e			
7- Teaching and learn methods for low cap students 8- Teaching and learn	acity	 provide them Repeat the exp Assign a teach 	on of the office hours for the with specific tailored tasks planation of some of the noting assistance to follow up project tasks to those students.	s. naterial and tutorials. o their performance			
methods for outstan students	_	2. Give them adv	ranced extra-curriculum to m to take part in a pilot re	ppics.			
9- Students assessme	ent						
a- Assessment methods	2. Fc	id Term Examinatio ormative (quizzes- p nal Term Examinatio	resentation -reports)				
b- Assessment schedule	- Quizz	cise sheet/ Lab assign z-1: Term exam:	ment: Weekly Week no. 5 Week no. 8				
	- Quizz		Week no. 12				
	- Final	al – term examination: Week no. 16					
c- Weighting of	- Class	ass tutorial and quizzes : 10 %					
assessment	- Mid-	term examination:	20 %				
	- Final	– term examination:		_			
			Total 100 %				

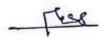
10- List of text books and references:							
a- Course notes	There are lectures notes prepared in the form of a book authorized by the						
	<u>department.</u>						
b- Text books/	[1] W. Hayt and J. Buck, Engineering Electromagnetics, McGraw - Hill, 7th.						
References	Ed., 2008.						
	[2] M. N. O. Sadku, Elements of Electromagnetics. Saunders College Publishing. Harcourt Brace College Publishers, 1989.						
c- Periodicals, Web	https://engineering.purdue.edu/wcchew/ece604f19/EMFTAll20191204.pdf						
sitesetc	https://onlinecourses.nptel.ac.in/noc22_ee40/preview_						

Competencies	Leve	IA		Level B		
Competencies		A.5	A.8	B.2	B.5	
Revision on vector analysis, vector algebra, various types of co-ordinates.	1		1		1	
Introduction of Coulombs law and electric field intensity, field distribution of point, line, volume, and sheet charges.	1	1			1	
Explaining Electric flux density, discussing Gauss law, and Maxwell's first equation and their applications.		1	1	1		
Explaining energy and potential, the potential field of point charge, as well as a system of charges, defining the potential gradient, and the electric dipole.	1	1			1	
Discussing the electrostatic fields in conductors and dielectric materials, as well as the electrostatic field in the capacitors, discussing Poisson's and Laplace's equations.		1	1	1		
Presenting and explaining the steady magnetic field, and the related topics of Ampere's circuital law, -and Biot-Savart law, defining the vector magnetic field potentials, magnetic flux and magnetic flux density,	1		1		1	
Differentiating between the magnetic forces, explaining the force and the torque, the magnetization and permeability, the closed magnetic circuit.	1	1			1	

Studying Maxwell equations, the magnetic fields in transmission lines, the graphical methods and Smith chart of analysis.	1		√	√	
The electromagnetic waves of uniform plane waves, and the plane wave reflection and dispersion.	1	√	1		1

12-Teaching and learning methods - Course related program competencies							
Competencies	Level	Α		Level B			
as imparaments	A.1	A.5	A.8	B.2	B.5		
Lecture (online/in class)	1		1	1	1		
Discussion	1		1		√		
Tutorial	1		1		√		
Problem solving		1	1	V	1		
Brain storming	1			1	√		
Self-learning	1	1		1	1		

13- Assessment methods - Course related program competencies								
Assessment methods	Course related program comptencies							
Competencies		Level	Α		Level B			
Competences		A.1	A.5	A.8	B.2	B.5		
1. Mid Term Examination (written/ online)		1		1	√	1		
2. Formative (quizzes- presentation -reports)		1	1			1		
3. Final Term Examination (written		1		1	1	1		





Dr. Essam Abdel Alim Gomah

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K 10, Bilbies – 10th of Ramadan



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Course Specification

1- Basic Information

Course Title	Computer Organiza	tion		
Course Code	CSE 214			
Academic Year	2022-2023			
Coordinator	Doctor. Soheir metwaly	afifi		
Teaching Staff	Doctor. Soheir metwaly	afifi		
Level	Level (2)			
Semester	First Term			
Number of Weekly	Lecture	2		
Contact Hours	Tutorial	2		
	Lab	0		
Department offering the	 Communicat 	ions and Computer Engineering		
program				
Department offering the	Communications and Computer Engineering			
course				

2- Aim of the course

- 1. To introduce students to concepts of Arithmetic and logic unit construction, Micro-operations, Register transfer language.
- 2. To teach CPU organization architectures.
- 3. To provide students with Single Accumulator organization for basic machine.
- 4. To provide students with instruction cycle.
- 5. To provide students with the basics of Characteristics of General Register organization and Stack organization.
- 6. To provide students with program interrupt and Micro-programmed control.
- 7. To provide students with a simple microprocessor case study.

Level A – General

- A.1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics. A.2. Demonstrate principles of design including elements design, process and/or a system related to specific disciplines.
- A.2. Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.
- A3. Apply engineering design processes to produce costeffective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.
- A.5 Practice research techniques and methods of investigation as an inherent part of learning.

- B1 Select, model and analyze electrical power systems applicable to the specific discipline by applying the concepts of: generation, transmission and distribution of electrical power systems.
- B.2 Design, model and analyze an electrical/electronic/digital system or component for a specific application; and identify the tools required to optimize this design.
- B.3 Design and implement: elements, modules, sub-systems or systems in electrical/electronic/digital engineering using technological and professional tools.
- B4. Estimate and measure the performance of an electrical/electronic/digital system and circuit under specific input excitation, and evaluate its suitability for a specific application.
- B5. Adopt suitable national and international standards and codes to: design, build, operate, inspect and maintain electrical/electronic/digital equipment, systems and services.

4- Course Contents

This course covers the register transfer and micro-operations: Register transfer languagebus and memory transfers, **Micro-operations:** arithmetic micro-operations, logic micro-operations, shift micro-operations, hardware implementation: binary adder, binary subtractor, binary adder subtractor, incrementer, arithmetic circuit, and finally arithmeticlogic shift unit. **Basic** computer organization and design: concepts of machine levelarchitecture, instruction formats, addressing modes, computer instructions, instructioncycle, timing and control, memory-reference instructions, input-output referenceinstructions and program interrupt instructions, interrupt cycle, complete computeSyllabus. Design of basic computers: control unit Syllabus and design of control logicgates for registers, memory, common bus, AC register, Adder and logic circuit. Central Processing Unit (CPU) Design: general register organization and control word, stackorganization: register stack and memory stack, Reverse Polish Notation (RPN), different instruction formats (three, two, one and zero address instructions) and their effect oncomputer performance, data transfer and manipulation instructions (arithmetic, logic, shift and bit manipulation). Program control, status bit conditions, branch (conditional andunconditional, subroutine call and return, program interrupt. Micro-programmed control: control memory, address sequencing, subroutines, design of control unit, micro-programsequencer. Finally, the course presents a simple microprocessor case study.

نقل البيانات بين المسجلات والعمليات الجزئية (العمليات الحسابية والمنطقية والإزاحة والدوران) وتصميم المكونات المادية الداخلية الخاصة بتنفيذ العمليات الجزئية وتصميم محدة الحساب والمنطق أساسيات تنظيم الحسبات والتصميم: التعليمات ورة التعليمات أنماط المغونة — تعليمات الذاكرة — تعليمات المسجلات اساسيات تصميم وحدة الحساب والمنطق: تصميم المسجلات — تنظيم الكومات — أنواع التعليمات المختلفه وتأثيرها على أداء الحاسب التحكم المبرمج الصغير: تحكم الذاكرة — تصميم التحكم المبرمج. دراسة حالة لأحد أنواع المعالجات الدقيقة .

# Topic	Lecture	Tutorial/Practical	No of hours
Register transfer language	4	4	8
Methods of common bus, binary adder/subtractor circuit construction Characteristics of ALU unit and its implementation	6	6	12
ALU function table	4	4	8
Single register organization and its instruction format	6	6	12
General register organization and	8	8	16

instruction cycle							
Total sum		28	28		56		
5- Teaching and learning methods 6- Teaching and learning		 Lectures Tutorials. Homework Exercises Reports Assign a portion of the office hours for those students. 					
methods for disable studen	its	 Give them specific tasks and evaluate them in it. Repeat the explanation of some of the course material an tutorials. Assign a teaching assistance to follow up the performance this group of students. 					
7- Teaching and learning methods for low capacity students		 Assign a portion of the office hours for those students and provide them with specific tailored tasks. Repeat the explanation of some of the material and tutorials. Assign a teaching assistance to follow up their performance 					
8- Teaching and learning methods for outstanding students		 Assign course project tasks to those students. Give them advanced extra-curriculum topics. Encourage them to take part in a pilot research and case studies. 					
9- Students assessment a- Assessment methods	2. O 3. Fo	lid Term Examination ormative (quizzes nal Term Examination nal Term Examina	- presentation	ı -reports)			
b- Assessment schedule	- Exerci - Quizz - Mid- - Quizz	cise sheet/ Lab assi z-1: Term exam:	gnment :	Weekly Week no Week no Week no	o. 8 o. 12		
c- Weighting of assessment	- Mid-	tutorial and quizze term examination: – term examinatio	20				
10- List of text books and re	eference	es:					

a- Course notes	There are lectures notes prepared in the form of a book
	authorized by the department.
b- Text books/ References	 V. Rajarman and T. Radhakrishnan, Computer Organization &
	Architecture, PHILearning Private Limited, New Delhi, 2007.
	M. Morris Mano, Computer system architecture, 3 rd edition, Prentice-
	Hall, Inc., 1993.
c- Periodicals, Web sites	https://www.javatpoint.com/computer-organization-and-
etc	<u>architecture-tutorial</u>

11-Course contents – Course related program competencies											
		Leve	IA					Leve	el B		
		A.1	A2	A.3	A.4	A5	B1	B.2	B.3	B.4	B.5
Register transfer language		1	1				1				
Methods of common bus, binary adder/subtractor circuit construction Characteristics of ALU unit and its implementation		1		1				1	1	1	1
ALU function table			1	1	1	1				1	1
Single register organization and its instruction format		1		1	√				1	1	
General register organization and instruction cycle		1		1	V	V		1		1	1

12-Teaching and learning methods - Course related program competencies								
	Level	Α		Level B				
	A.1	A.3	A.4	B.2	B.3	B.4	B.5	
Lecture (online/in class)	1							
Discussion	1	1	1	1	1	1	1	
Tutorial	1	1	1	1	1			
Problem solving			1	1	1			
Brain storming				1	1	1	1	

Projects		1	1	1	1
Self-learning					1
Research and Reporting				1	
Computer Simulation				1	1
Teamwork					

13- Assessment methods - Course related program competencies								
Assessment methods Course related program comptencies								
		Level	Α		Leve	ΙB		
		A.1	A.3	A.4	B.2	B.3	B.4	B.5
1. Mid Term Examination (written/ online)		1	1	1	1	1		
2. Practical Examination								
3. Oral Examination								
4. Formative (quizzes- presentation -reports)		1	1	1	1	1		
5. Final Term Examination (written		1	1	1	1	1		

Doctor. Soheir afifi

Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies – 10th of Ramadan



وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Engineering Econ	omics		
Course Code	IEN 215			
Academic Year	2022-2023			
Coordinator	Dr .Mohamed Elkhar	mry		
Teaching Staff	Dr .Mohamed Elkhar	nry		
Level	Level (2)			
Semester	First Term			
Number of Weekly	Lecture	2		
Contact Hours	Tutorial	1		
	Lab	2		
Department offering the	 Electronics ar 	nd Communications Engineering,		
program	Computers as	nd Systems Engineering,		
	 Communicati 	ions and Computer Engineering		
Department offering the	Electronics Engineering and Electrical			
course	Communication			
2 Aim of the course				

2- Aim of the course

- 1. To provide the students Introduction To Engineering Economy: Engineering Decision Making, Break Even Analysis, Production Function, Payback Period Method, Payback Period Method.
- 2. To enhance students' ability for Engineering Economy: Engineering Decision Making, Break Even Analysis, Production Function, Payback Period Method, Payback Period Method.
- 3. To acquire students Time Value of Money: Simple Interest Rate, Compound Interest, Discreet cash flow and Economic Equivalence, Evaluating of the Projects (Present Worth, Annual worth, and Capitalized Cost), Nominal and Effective Interest Rate.
- 4. To emphasize on comprehensive treatment of embedded hardware and real time operating systems along with case studies.
- 5. To analyze Rate of Return calculations using A Present worth PW, Rate of Return Calculation by Using Annual worth EAW, Rate of Return Evaluation for Multiple Alternatives.

_	-		complex engineering prob ce and mathematics.	lems by applying						
Level A – General	and interpret d	ata, assess and eva	e experimentation and/or aluate findings, and use st o draw conclusions.	•						
Level	guidelines, hea	A.4 Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.								
		B.2 Design, model and analyze an electrical/electronic/digital system or component for a specific application; and identify the tools required to optimize .this design								
pecialist	B.3 Design and implement elements, modules, sub-systems, or systems in electrical/electronic/digital engineering using technological and .professional tools									
Level B - Specialist	B.4 Estimate and measure the performance of an electrical / electronic/digital system and circuit under specific input excitation and evaluate its suitability for a specific application									
	build, operate	B.5 Adopt suitable national and international standards and codes to design, build, operate, inspect, and maintain electrical/electronic/digital equipment, systems, and services.								
4- Course Contents	of Supply And Dem Income And Cash F Introduction To Eng	and, Elasticity, D low, The Objective gineering Econom	cepts, Varieties of Marketifferent Types Of Econology wes Of The Firms, Balan y: Engineering Decision Payback Period Method	omy, Accounting ace Sheet (BS). a Making, Break –						
# Topic		Lecture	Tutorial/Practical	No of hours						
	to Economy: Basic rieties of Market	4	4	8						
Income And	nomy, Accounting Cash Flow, The f The Firms, Balance	6	6 6							
Economy: En Making, Brea	To Engineering agineering Decision ak – Even Analysis, unction, Payback	8	8	16						

Period Method, Payback Period

Method						
Time Value of Money: Simp Interest Rate, Compound Interest, Discreet cash flow Economic Equivalence, Evaluating of the Projects		6	12			
Depreciation Models: Natu Depreciation, Depreciation Conventional Methods, Me Based on Asset Usage, Swit Between Depreciation Mod	ethods 4	4	8			
Total sum	28	28	56			
5- Teaching and learning methods	 Discussion Tutorial Problem so Brain storm Projects Self-learnin Research a 	 Discussion Tutorial Problem solving Brain storming Projects Self-learning Research and Reporting Computer Simulation 				
6- Teaching and learning methods for disable studen 7- Teaching and learning	2. Online lect 3. Using as m 4. Providing 6	 Online lectures and assignments Using as many audio/visual aids as possible. Providing extra opportunities for practice Assign a portion of the office hours for those students 				
methods for low capacity students	2. Repeat the tutorials.3. Assign a te	tutorials.				
8- Teaching and learning methods for outstanding students	2. Give them	 Assign course project tasks to those students. Give them advanced extra-curriculum topics. Encourage them to take part in a pilot research and case 				
9- Students assessment						
a- Assessment methods	 Practical Examination Oral Examination Formative (quizze 	Aid Term Examination (written/ online) Practical Examination Oral Examination Ormative (quizzes- presentation -reports) In the initial Term Examination (written)				
b- Assessment schedule	- Exercise sheet/ Lab as - Quizz-1:	signment : Weekly Week r				

	- Mid-Term exam:	Week	no. 8			
	- Quizz-2:	Week	no. 12			
	- Final – term examination:	Week	no. 16			
c- Weighting of	- Class tutorial and quizzes :		20%			
assessment	- Mid-term examination:		20 %			
	- Final – term examination:		60%			
		Total	100 %			
10- List of text books and re	eferences:					
a- Course notes	There are lectures notes p authorized by the departn	-	form of a book			
b- Text books/ References	1. N.M. Fraser and E.M. Jew		ng economics: Financial			
•	decision making for enginee		-			
	Ontario, (2013).	, ,				
	2. D.G. Newnan, J. Whittake	r. T.G. Eschenb	ach and J.P. Lavelle.			
	Engineering economic analysis, 3rd edition, Don mills, Toronto, Ontario, (2014).					
2c- Periodicals, Web sites		https:// classroom.google.com/c/NDE00TM2NjgyODc4				
etc.		, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,	101			

11-Course contents – Course related program competencies							
	Level A			Leve	Level B		
	A.1	A.2	A.4	B.2	B.3	B.4	B.5
Introduction to Economy: Basic Concepts, Varieties of Market Structure,	1						
Types Of Economy, Accounting Income And Cash Flow, The Objectives Of The Firms, Balance Sheet (BS).	1	1		1	1	1	1
Introduction To Engineering Economy: Engineering Decision Making, Break – Even Analysis, Production Function, Payback Period Method, Payback Period Method.		1	√			1	1
Time Value of Money: Simple Interest Rate, Compound Interest, Discreet cash flow and Economic Equivalence, Evaluating of the Projects	1	1	1		1		√
Depreciation Models: Nature of Depreciation, Depreciation Conventional Methods			1	1	1	1	

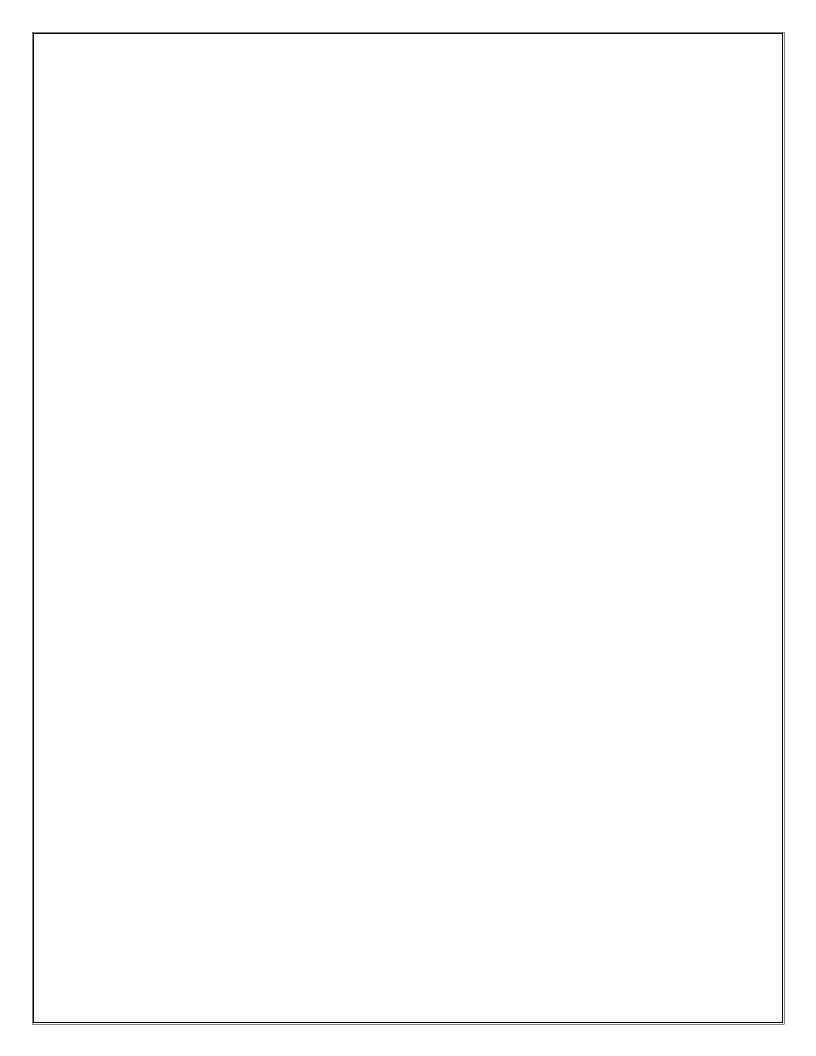
12-Teaching and learning methods - Course related program competencies								
	Leve	Level B						
	A.1	A.2	A.4	B.2	B.3	B.4	B.5	
Lecture (online/in class)	1							
Discussion	1	1	1	1	1	1	1	
Tutorial	1	1	1	1	1			
Problem solving			1	1	1			
Brain storming				1	1	√	1	
Projects				1	1	√	1	
Self-learning							1	
Research and Reporting						√		
Computer Simulation						√	1	
Teamwork								

13- Assessment methods - Course related program competencies									
Assessment methods	Course related program comptencies								
		Level	Α		Leve	l B			
		A.1	A.2	A.4	B.2	B.3	B.4	B.5	
Mid Term Examination (written/ online)		1	1	1	1	1			
2. Practical Examination									
3. Oral Examination		1	1	1	1	1			
4. Formative (quizzes- presentation -repor	ts)	1	1	1	1	1			
5. Final Term Examination (written		V	1	1	1	1			





Dr. Mohammed Elkhamry



Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies - 10th of Ramadan



وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قراد وزادي 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

C TILL	£					
Course Title	ثقافة عامه اختياري أ					
	الحضارة العربية والاسلامية					
Course Code	2A1 (X75)					
Academic Year	2022-2023					
Coordinator	أ.د امين سعيد					
Teaching Staff	أ د امین سعید	أد امین سعید				
Level	Level (2)					
Semester	First Term	First Term				
Number of Weekly	Lecture	2				
Contact Hours	Tutorial	0				
	Lab	0				
Department offering	 Electronics and 	Communications Engineering,				
the program	 Computers and 	Systems Engineering,				
	 Communication 	ns and Computer Engineering				
Department offering	Humanities & Social So	Humanities & Social Sciences				
the course						
2 Aire of the course						

2- Aim of the course

- 1. Learn the principles of errors in measurements, statistical analysis of errors in measurements, measurements of all electrical quantities
- 2. Learn the measurement of resistances and capacitors.
- 3. Learn the principles of multi-meter, the oscilloscope, signal generators.
- 4. Learn the measurements of time period and frequency, spectrum analyzers, logic analyzers, logic probe
- 1. Demonstrate the energy transducers (pressure, force, displacement, level, light, temperature, speed), a/d and d/a and applications, data acquisition cards.

	• •		e complex engineering pro ence and mathematics.	oblems by applying				
Level A – General	interpret da		ate findings, and use stati	or simulation, analyze and stical analyses and objective				
A.4 Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.								
Level B - Specialist								
4- Course	Syllabus:							
Contents								
				اسس الحضارة الاسلامية (
			, –	الشعوب المفتوحة – التاثيرات الاج) النظام الاداري (الادارات المحلية				
	· ·	` •	_) انتظام الاداري (الادارات المحلية المالي (موارد بيت المال – النفقات				
	(1 -	- 1 1 - 1 -	_ الأسطول) _ التعليم والثقافه (الع				
	الفنون والاقار والعمارة – القضاؤ والتقاضى – المجتمع الاسلامي (عناصرة واجناسة – الطوائف الدينية والمذهبية)- البناء الطبقي: الحكام والفقهاء والعلماء والتجار واصحاب الحرف والصناعات							
				الُخ.				
# Topic		Lecture	Tutorial/Practical	No of hours				
الاسلامية	اسس الحضارة							
(القر ان و السنة ـ الامة								

# Topic	Lecture	Tutorial/Practical	No of hours
اسس الحضارة الاسلامية (القران والسنة - الامة العربية - اللغه - الاطار الجغرافي - الشعوب المفتوحة - التثيرات الاجنبية)	4	0	0
	6	0	0
النظام المالى (موارد بيت المال النفقات - السكة) النظم العسكرية (الجيش وتكوينة واسلحته واساليبه - الاسطول) التعليم والثقافه (العلوم	8	0	0

Tatti. Neti to 11 To	211			1				
عية '' علم الكلام والفقة								
العلوم العقلية) – الفنون	– '' 							
والاقار والعمارة								
ساق والتقاضي - المجتمع	القض							
ى (عناصرة واجناسة _		6	0	0				
طوائف الدينية والمذهبية)								
اء الطبقى :								
الفقهاء	,							
والتجار	والعلماء	_						
ب الحرف	_	4	0	0				
عاتالخ.	والصناء							
Total sum		28	0	0				
E Tooching and loan	nina	Lecture (onlin	a/in alace)					
5- Teaching and learn methods	iiig	2. Discussion	C/III Class)					
methods		3. Tutorial						
		4. Problem solving						
		5. Brain storming						
		6. Projects						
		7. Self-learning						
		8. Research and Reporting						
		9. Computer Simulation 10. Teamwork						
6 Taashing and laam		Additional Tutorials						
6- Teaching and learn methods for disable	ıırıg		es and assignments					
			audio/visual aids as poss	ihle				
students			a opportunities for practic					
7- Teaching and learn	ning	Assign a portion of the office hours for those students and						
methods for low cap	_		with specific tailored task					
students		2. Repeat the explanation of some of the material and tutorials.						
		3. Assign a teaching assistance to follow up their performance						
8- Teaching and learn	ning	Assign course project tasks to those students.						
methods for outstan	ding		vanced extra-curriculum to	•				
students		3. Encourage them to take part in a pilot research and case studies.						
9- Students assessment								
a- Assessment	1. M	lid Term Examination (written/ online)						
methods		actical Examination						
	3. O	ral Examination						
	4. Fo	ormative (quizzes- p	resentation -reports)					
	5. Fi	nal Term Examinati	al Term Examination (written)					

b- Assessment	- Exercise sheet/ Lab assignment :	Weekly
schedule	- Quizz-1:	Week no. 4
	- Mid-Term exam:	Week no. 8
	- Quizz-2:	Week no. 12
	- Final – term examination:	Week no. 16
c- Weighting of	- Class tutorial and quizzes :	10%
assessment	- Mid-term examination:	20 %
	- Final – term examination:	70%
		Total 100 %
10- List of text books	and references:	
a- Course notes	There are lectures notes prepar the department.	red in the form of a book authorized by
b- Text books/	لعصور الوسطي، 2004	 احمد عبد الرزاق، الحضارة الاسلامية في ا
References	سلامية، 1985	 فتحية النبراوي، تاريخ النظم والحضارة الا
	· في العصور الوسطي، 1978	 عبد المنعم ماجد، تأريخ الحضارة الاسلامية
2c- Periodicals, Web		_
sitesetc.		

11-Course contents – Course related program competencies						
	Leve	IA				
	A.1	A.2	A.4			
اسس الحضارة الاسلامية (القران والسنة - الامة العربية - اللغه - الاطار الجغرافي - الشعوب المفتوحة - التاثيرات الاجنبية)	1					
- النظم السياسي (الخلافة - الوزارة - الكتابة - الحجابة) النظام الاداري (الادارات المحلية - دواوين الجند والخراج والرسائل والبريدالخ.	1	1				
النظام المالى (موارد بيت المال – النفقات - السكة) النظم العسكرية (الجيش وتكوينة واسلحته واساليبه – الاسطول) – التعليم والثقافه (العلوم الشرعية '' علم الكلام والفقة'' – العلوم العقلية) – الفنون والاقار والعمارة		1	V			
القضاق والتقاضى — المجتمع الاسلامي (عناصرة واجناسة — الطوائف الدينية والمذهبية)	1	1	1			
.)- البناء الطبقى: الحكام والفقهاء والعلماء والتجار واصحاب الحرف والصناعاتالخ.			1			

12-Teaching and learning methods - Course related program competencies	Leve	IA	
Problem solving	1	1	1
Brain storming		√	1
Projects		7	1
Self-learning			
Research and Reporting			
Computer Simulation		1	1
Teamwork			

13- Assessment methods - Course related prop				
Assessment methods	Course related program comptencies			
		Level	A	
		A.1	A.2	A.4
1. Mid Term Examination (written/ online)		1	1	1
2. Practical Examination				
3. Oral Examination		1	1	1
4. Formative (quizzes- presentation -repor	ts)	1	1	1
5. Final Term Examination (written		1	1	1

Authorized from board of the department at 1/9/2022 Course coordinator:

Prof. Amin Said Abd-Elghany

In Come



Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies - 10th of Ramadan



وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Principles of Design	& Manufacturing Engineering			
Course Code	MED 111	MED 111			
Academic Year	2022-2023				
Coordinator	Dr. Essam Nabil Ahmed	d			
Teaching Staff	Dr. Essam Nabil Ahmed	d			
Level	Level (2)				
Semester	First Term	First Term			
Number of Weekly	Lecture 2				
Contact Hours	Tutorial 1				
	Lab 0				
Department offering the	Electronics and Communications Engineering,				
program	 Computers and S 	Systems Engineering,			
	Communications and Computer Engineering				
Department offering the	Design & Manufacturing Engineering				
course	• Design & Manufacturing Engineering				
2. Aim of the course					

2- Aim of the course

- 1. To equip students with the principles, facts and concepts of design and manufacturing engineering.
- 2. To teach students basic machining processes.
- 3. To provide students with mechanical components, motion and power transmission elements and standard machine elements.
- 4. To provide students with the basics of machine elements design.
- 5. Training students on automatic control applications e.g. robotics.

3- Course related program competencies

Level A – General

- A.1 Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.
- A.2 Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.

Level B - Speciality	component for optimize this appropriate this begin and electrical/electrical/electrical begins and electrical begins are electrical begins and electrical begins and electrical begins and electrical begins are electrical begins and electrical begins and electrical begins are electrical	For a specific apply a design. implement element element ctronic/digital tools. measure the per	formance of an electropecific input excitation	the tools required to stems or systems in technological and cical/electronic/digital
4- Course Contents	machine element pulleys, bearings	ts (threads, faste , pipe connection ne elements design	and power transmissioners, locking devices, ns, etc.), Welding and n, Stress analysis, Basic	keys, splines, gears, riveting conventions,
# Topic		Lecture	Tutorial/Practical	No of hours
Mechanica	ll components.	4	2	6
Motion and power transmission elements.		6	3	9
Standard machine elements (threads, fasteners, locking devices, keys, splines, gears, pulleys, bearings, pipe connections, etc.), Welding and riveting conventions.		6	3	9
	Machine elements ess analysis, Basic processes.	8	4	12
Application technology	ns of robotics	4	2	6
Total sum		28	14	42
5- Teaching methods	and learning	 Lecture (onli Discussion Tutorial Problem solv Brain storming Projects 	ving	

	7. Self-learning				
	8. Research and Reporting				
	9. Computer Simulation 10. Teamwork				
6- Teaching and learning	1. Additional Tutorials				
methods for disable stude	2. Online lectures and assignments				
	3. Using as many audio/visual aids as possible.				
	4. Providing extra opportunities for practice				
7- Teaching and learning	 Assign a portion of the office hours for those students and provide them with specific tailored tasks. 				
methods for low capacity	3. Repeat the explanation of some of the material and				
students	tutorials.				
	4. Assign a teaching assistance to follow up their performance				
8- Teaching and learning	Assign a teaching assistance to follow up their performance Assign course project tasks to those students.				
methods for outstanding	Give them advanced extra-curriculum topics.				
_	3. Encourage them to take part in a pilot research and case				
students	studies.				
0.01.1					
9- Students assessment					
a- Assessment	Mid Term Examination (written/ online)				
methods	2. Practical Examination				
	3. Oral Examination				
	4. Formative (quizzes- presentation -reports)				
	5. Final Term Examination (written)				
b- Assessment schedule	- Exercise sheet/ Lab assignment : Weekly				
	- Quizz-1: Week no. 5				
	- Mid-Term exam: Week no . 8				
	- Quizz-2: Week no. 12				
	- Final – term examination: Week no. 16				
c- Weighting of	- Class tutorial and quizzes : 10 %				
assessment	- Mid-term examination: 20 %				
	- Final – term examination: 70 %				
	Total 100 %				
40 124 (1)					
10- List of text books and	reterences:				
a- Course notes	There are lectures notes prepared in the form of a book				
	authorized by the department.				
b- Text books/	[1] Jonathan Wickert, An Introduction to Mechanical Engineering, CL				
References	- Engineering, 2nd. Ed., 2005.				
	[2] D.K. Singh, Fundamentals of Manufacturing Engineering, CRC				
	Press, 2008.				
	[3] Robert L. Mott, Machine Elements in Mechanical Design, Prentice				

	Hall, 4th. Ed., 2003
c- Periodicals, Web sites	https://www.sciencedirect.com/topics/engineering/manufacturing-
etc	<u>process-control</u>
	https://www.amazon.com/Industrial-Controls-Manufacturing- Engineering-Edward/dp/0123948509
	https://www.indeed.com/q-Manufacturing-Controls-Engineer-
	jobs.html?vjk=4e52a811a46e8840

11-Course ccontents – Course related program competencies					
	Level A Level B		}		
	A.1	A.2	B.2	В.3	B.4
Mechanical components.	1		1		
Motion and power transmission elements.	1	1		1	1
Standard machine elements (threads, fasteners, locking devices, keys, splines, gears, pulleys, bearings, pipe connections, etc.), Welding and riveting conventions.	1	1	1	1	1
Basics of Machine elements design, Stress analysis, Basic machining processes.	1	1		1	1
Applications of robotics technology.	1	1	1	1	1

12-Teaching and learning methods - Course related program competencies					
	Lev	Level A		Level B	
	A.1	A.2	B.2	B.3	B.4
Lecture (online/in class)	1		1		
Discussion	1	1	1	1	1
Tutorial	1		1		
Problem solving	1		1		
Brain storming	1	1	1	1	1
Projects		1		1	1
Self-learning	1	1	1	1	1
Research and Reporting	1		1		1

Computer Simulation		1		1	
Teamwork	V	1	7	V	1

13- Assessment methods - Course related program competencies					
Assessment methods Course related program competencies					
	Lev	el A		Level E	В
	A.1	A.2	B.2	В.3	B.4
1. Mid Term Examination (written/ online)	1		√		
2. Practical Examination		1		1	1
3. Oral Examination	1	1	√	1	1
4. Formative (quizzes- presentation -reports)	1		1		
5. Final Term Examination (written	1		1		

Authorized from board of the department at 1/9/2022

Course coordinator:

Dr. Essam Nabil Ahmed



Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies - 10th of Ramadan



وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Statistics and Probab	oility Theory		
Course Code	BAS 221	BAS 221		
Academic Year	2022-2023			
Coordinator	Dr. Gamal El-Anani			
Teaching Staff	Dr. Gamal El-Anani			
Level	Level (2)			
Semester	Second Term			
Number of Weekly	Lecture	2		
Contact Hours	Tutorial 2			
	Lab	0		
Department offering the	 Electronics and Communications Engineering, 			
program	 Computers and Systems Engineering, 			
	 Communications and Computer Engineering 			
Department offering the	Basic Science			
course				
0 01 6.1				

2- Aim of the course

- 1. Understand the concept of statistics and probability theory.
- 2. Understand the methods to calculate the measures of central tendency and the measures of dispersion.
- 3. Understand the coefficient of skewness.
- 4. Be familiar with probability and the rules of probability.
- 5. Understand the methods to find the conditional probability, Bayes' theorem.
- 6. Be familiar with discrete and continuous probability, and its applications

Level A – General	A.1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics. A.2. Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions A.3. Apply engineering design processes to produce costeffective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development. A.5. Practice research techniques and methods of investigation as an inherent part of learning.
Level B - Speciality	
4- Course Contents	Introduction: The birth of statistics, definition of statistics, functions of statistics, collection and organization of statistical date, presentations of Statistical data. Sets and Probabilities: random experiments, sample spaces, sets operations, counting data, probability, conditional probabilities, Baye's theorem. Tendency and Dispersion Measures: Introduction, different types of data, tendency measures, variability measures, frequency distributions. Random Variables: Discrete random variables, the Hyper – geometric distribution, Binomial distribution, the Poisson distribution, Poisson approximation of binomial probabilities, continuous random variables. Moments: central moments, Skewness measures, kurtosis measures, moment generating function. Sampling Theory and inferences: the concept Of a sampling distribution, sampling distribution of the mean, central limit theorem, tests of hypothesis and

Confidence intervals for the mean, tests of hypothesis and confidence intervals for the difference between two means, tests of hypothesis and confidence intervals for the difference between tow means, tests of hypothesis and confidence intervals for the population proportion, tests of hypothesis and confidence intervals, for the difference between tow proportions, tests of hypothesis and confidence intervals of sample variance, tests of hypothesis and confidence interval for ratio of sample variances. Simple regression and correlation: Simple linear regression by least square method, validation the model, correlation coefficient

# Topic	Lecture	Tutorial/Practical	No of hours
The birth of statistics, definition of statistics, functions of statistics, collection and organization of statistical date, presentations of Statistical data.	4	4	8
Sets and Probabilities: random experiments, sample spaces, sets operations, counting data, probability, conditional probabilities, Baye's theorem.	6	6	12
Tendency and Dispersion Measures: Introduction, different types of data, tendency measures, variability measures, frequency distributions.	8	8	16
Random Variables: Discrete random variables, the Hyper – geometric distribution, Binomial distribution, the Poisson distribution, Poisson approximation of binomial probabilities, continuous random variables. Moments:	6	6	12

			, , , , , , , , , , , , , , , , , , , 	
central moments, Skewness measures,				
kurtosis measures, moment generating				
function. Sampling Theory and				
inferences: the concept Of a sampling				
distribution, sampling distribution of the				
mean, central limit theorem, tests of				
hypothesis and Confidence intervals for				
the mean, tests of hypothesis and				
confidence intervals for the difference				
between two means, tests of hypothesis				
and confidence intervals for the				
difference between tow means, tests of				
hypothesis and confidence intervals for				
the population proportion, tests of				
hypothesis and confidence intervals, for				
the difference between tow				
proportions, tests of hypothesis and				
confidence intervals of sample variance,				
tests of hypothesis and confidence				
interval for ratio of sample variances.				
Simple regression and correlation:				
Simple linear regression by least square	4	4	8	
method, validation the model,				
correlation coefficient				
Total sum	28	28	56	
5- Teaching and learning methods		re (online/in class)	1	
	 Discu Tutori 			
	4. Proble	em solving		
	5. Brain storming6. Projects			
	7. Self-learning			
	8. Research and Reporting9. Computer Simulation			
	10. Teamwork			
6- Teaching and learning methods for disable students		ional Tutorials		
	2. Online	e lectures and assigni	ments	

		Using as many audio/visual aids as possible.	
		Providing extra opportunities for practice	
7- Teaching and learning m students	ethods for low capacity	Assign a portion of the office hours for those students and	
		provide them with specific tailored tasks.	
		3. Repeat the explanation of some of the material and tutorials.	
		4. Assign a teaching assistance to follow up their performance	
8- Teaching and learning m	ethods for outstanding	Assign course project tasks to those students.	
students		Give them advanced extra-curriculum topics.	
		3. Encourage them to take part in a pilot research and case studies.	
9- Students assessment			
a- Assessment methods	 Mid Term Examination (written/ online) Practical Examination Oral Examination Formative (quizzes- presentation -reports) 		
b- Assessment schedule	5. Final Term Examination- Exercise sheet/ Lab assign		
2 7 055555111C111 5001 C0011C	- Quizz-1:	Week no. 5	
	- Mid-Term exam:	Week no . 8	
	- Quizz-2:	Week no. 12	
	- Final – term examination:	Week no. 16	
c- Weighting of	- Class tutorial and quizzes :	10 %	
assessment	- Mid-term examination:	20 %	
	- Final – term examination:	70 %	
		Total 100 %	
10- List of text books and re	eferences:		
a- Course notes		es prepared in the form of a book	
b- Text books/ References	Publishing Company	ck ,M and Pence, D., Calculus, PWS 7 - Boston, 1994. Engineering Mathematics, McGraw - HILL	

	 Anthony croft, Robert Davison, Engineering Mathematics A modern Foundation for Electrical, Electronic & Control Engineering, Addison - Wesley - Publishing Company, 1992.
c- Periodicals, Web sites	Web Sites related to Mathematics and Mathematical engineering as:
etc	www.math.hmc.edu,
	www.tutorial.math.lamar.edu,
	www.web.mit.edu

11-Course contents – Course related program competencies				
	Level A			
	A.1	A.2	A.3	A.5
The birth of statistics, definition of statistics, functions of statistics, collection and organization of statistical date, presentations of Statistical data.	1			
Sets and Probabilities: random experiments, sample spaces, sets operations, counting data, probability, conditional probabilities, Baye's theorem.	1	1		1
Tendency and Dispersion Measures: Introduction, different types of data, tendency measures, variability measures, frequency distributions.		1	1	
Random Variables: Discrete random variables, the Hyper – geometric distribution, Binomial distribution, the Poisson distribution, Poisson approximation of binomial probabilities, continuous random variables. Moments: central moments, Skewness measures, kurtosis measures, moment generating function. Sampling Theory and inferences: the concept Of a sampling distribution, sampling distribution of the mean, central limit theorem, tests of hypothesis and Confidence intervals for the mean, tests of hypothesis and confidence intervals for the difference between two means, tests of hypothesis and confidence intervals for	٧	٧	V	

the difference between tow means, tests of hypothesis			
and confidence intervals for the population proportion,			
tests of hypothesis and confidence intervals, for the			
difference between tow proportions, tests of hypothesis			
and confidence intervals of sample variance,			
tests of hypothesis and confidence interval for ratio of			
sample variances. Simple regression and correlation:		,	
Simple linear regression by least square method,		٧	
validation the model, correlation coefficient			

12-Teaching and learning methods - Course related program competencies				
	Level A			
	A.1	A.2	A.3	A.5
Lecture (online/in class)	1	1	1	1
Discussion	1	1	1	1
Tutorial	1	1	1	1
Problem solving	1	1	1	1
Brain storming	1	1	1	1
Projects	1	1	1	1
Self-learning		1		
Research and Reporting			1	
Computer Simulation				
Teamwork				

13- Assessment methods - Course related program competencies						
Assessment methods Course related program comptencies						
Level A						
			A.1	A.2	A.3	A.5

Mid Term Examination (written/ online)	1	1	1	1
2. Practical Examination				
3. Oral Examination				
4. Formative (quizzes- presentation -reports)	1	1	1	1
5. Final Term Examination (written	1	1	1	1

Authorized from board of the department at 4/2/2023 Course coordinator:

Dr. Gamal El-Anany



Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies - 10th of Ramadan



وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Electronic Devices			
Course Code	ECE 222			
Academic Year	2022-2023			
Coordinator	Dr. Amira A. Mahme	oud		
Teaching Staff	Dr. Amira A. Mahme	oud		
Level	Level (2)			
Semester	Second Term			
Number of Weekly	Lecture	2		
Contact Hours	Tutorial	1		
	Lab	1		
Department offering the	 Electronics a 	nd Communications Engineering,		
program	 Computers a 	and Systems Engineering,		
	Communications and Computer Engineering			
Department offering the	Electronics and Communications Engineering			
course				
2- Aim of the course				

- 1. To study the PN junction diodes, special diodes, diode circuits applications, rectifiers, and peak detectors.
- 2. To study the Bipolar junction transistors (BJT), dc models, modes of operation, bias and stabilization, graphical analysis, small signal ac models.
- 3. To study the Junction field effect transistors (JFETs).
- 4. To study the Metal oxide semiconductor field effect transistors (MOSFETs), dc models, modes of operation, bias and stabilization, small signal ac models, amplifier configurations.
- 5. To study the Logic circuits: BJT logic families, construction, properties, speed, and applications.

	A.1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.				
eneral	A.2. Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.				
Level A – General	A.3. Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.				
	A.5. Practice research techniques and methods of investigation as an inherent part of learning.				
Ž.	B.2 Design, model and analyze an electrical/electronic/digital system or component for a specific application; and identify the tools required to optimize this design.				
Level B - Speciality	B.4 Estimate and measure the performance of an electrical/electronic/digital system and circuit under specific input excitation and evaluate its suitability for a specific application.				
Levo	B.5 Adopt suitable national and international standards and codes to: design, build, operate, inspect and maintain electrical/electronic/digital equipment, systems and services.				
4- Course Contents	PN junction diodes, special diodes, diode circuits applications, rectifiers, and peak detectors				
	Bipolar junction transistors (BJT), dc models, modes of operation, bias and stabilization, graphical analysis, small signal ac models				
	Junction field effect transistors (JFETs). Metal oxide semiconductor field effect transistors (MOSFETs), dc models, modes of operation, bias and stabilization, small signal ac models, amplifier configurations.				
	Logic circuits: BJT logic families, construction, properties, speed, and applications.				
	Laboratory: 01 Characterization of PN junction diodes and Zener diodes. 02 Half wave and full wave rectifier circuits and peak detectors. 03 AC and dc characterization of bipolar junction transistors. 04 AC and dc characterization of Junction field effect transistors. 05 AC and dc characterization of Metal oxide semiconductor field effect.				

# Topic	Lecture	Tutorial/Practical	No of hours
PN junction diodes, special diodes, diode circuits applications, rectifiers, and peak detectors	6	6	12
Bipolar junction transistors (BJT), dc models, modes of operation, bias and stabilization, graphical analysis, small signal ac models	8	8	16
Junction field effect transistors (JFETs). Metal oxide semiconductor field effect transistors (MOSFETs), dc models, modes of operation, bias and stabilization, small signal ac models, amplifier configurations.	8	8	16
Logic circuits: BJT logic families, construction, properties, speed, and applications.	6	6	12
Total sum	28	28	56
5- Teaching and learning methods	 Discuss Tutoria Probler Brain s Projects Self-lea Researc Compu Teamw 	oll In solving Itorming Itorning Itorning	
6- Teaching and learning methods for disable students	 Online Using a possible 	ng extra opportunitie	aids as
7- Teaching and learning methods for low capacity students	those single 2. provide	a portion of the office tudents and them with specific to the explanation of sc	ailored tasks.

		material and tutorials.			
		4. Assign a teaching assistance to follow up			
		their performance			
8- Teaching and learning me	thods for	Assign course project tasks to those			
outstanding students		students.			
outstanding stadents		2. Give them advanced extra-curriculum			
		topics.			
		3. Encourage them to take part in a pilot			
		research and case studies.			
9- Students assessment					
5- Students assessment					
a- Assessment		nination (written/ online)			
methods	2. Practical Exami				
	3. Oral Examination				
		zzes- presentation -reports)			
		mination (written)			
b- Assessment schedule	- Exercise sheet/ Lab	assignment: Weekly			
	- Quizz-1:	Week no. 5			
	- Mid-Term exam:	Week no. 8			
	- Quizz-2:	Week no. 12			
	- Final – term examir	nation: Week no. 16			
c- Weighting of	- Class tutorial and q	uizzes: 20 %			
assessment	- Mid-term examina	tion: 20 %			
	- Final – term examir	nation: 60 %			
		Total 100 %			
10- List of text books and ref	ferences:				
a- Course notes	There are lectur	res notes prepared in the form of power			
	point.				
b- Text books/ References		K. Smith, Microelectronic Circuits, Oxford Press,			
		5th. Ed., 2004.			
	 D.A. Neaman, Semiconductor Physics and Devices, 				
	McGraw Hill, 4th. Ed., 2011. R Streetmann & S Raperice, Solid State Electronic Devices.				
	 B. Streetmann & S. Banerjee, Solid State Electronic Devices, Prentice Hall, 6th. Ed., 2005. 				
c- Periodicals, Web sites					
etc	Web Sites related to	Electronics and Electronic engineering.			

11-Course contents – Course related program competencies

	Level A				Level B			
	A.1	A.2	A.3	A.5	B.2	B.4	B.5	
PN junction diodes, special diodes, diode circuits applications, rectifiers, and peak detectors.	1		√	1	1	1	1	
Bipolar junction transistors (BJT), dc models, modes of operation, bias and stabilization, graphical analysis, small signal ac models - Junction field effect transistors (JFETs).	√	1		V		1	1	
Metal oxide semiconductor field effect transistors (MOSFETs), dc models, modes of operation, bias and stabilization, small signal ac models, amplifier configurations.		1	1		1		1	
Logic circuits: BJT logic families, construction, properties, speed, and applications.	1	1	1			1	1	

2-Teaching and learning methods - Course related program competencies									
	Level A					Level B			
	A.1	A.2	A.3	A.5	B.2	B.4	B.5		
Lecture (online/in class)	1	1	1	√					
Discussion	1	1	1	1	1	1	1		
Tutorial	1	1	1	1	V	1	1		
Problem solving	1	1	1	1	1	1	1		
Brain storming	1	1	1	1					
Projects	1	1	1	1	1	1	1		
Self-learning		1							
Research and Reporting			1		1	1	1		
Computer Simulation		1					1		
Teamwork					1	1	1		

13- Assessment methods - Course related program competencies

Assessment methods	Course related program	ourse related program comptencies						
		Level A						
		A.1	A.2	A.3	A.5	B.2	B.4	B.5
1. Mid Term Examination (wri	tten/ online)	1	1	1	1			
2. Practical Examination						1	1	1
3. Oral Examination						1	1	1
4. Formative (quizzes- presen	tation -reports)	1	1	1	1			
5. Final Term Examination (wr	itten	√	1	1	1			

Authorized from board of the department at 4/2/2023 Course coordinator:

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Dr. Amira A. Mahmoud

Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies - 10th of Ramadan



وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قراد وزادي 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Microprocessors & A	applications
Course Code	CSE223	
Academic Year	2022-2023	
Coordinator	Dr. Soheir Afifi	
Teaching Staff	Dr. Soheir Afifi	
Level	Level (2)	
Semester	Second Term	
Number of Weekly	Lecture	2
Contact Hours	Tutorial	1
	Lab	1
Department offering the	 Electronics ar 	nd Communications Engineering,
program	Computers a	nd Systems Engineering,
	Communicati	ions and Computer Engineering
Department offering the	Computers a	nd Systems Engineering,
course		
2- Aim of the course		

2- Aim of the course

- 1. Learn and understand what a microprocessor is, what it does, and how it works
- 2. Learn Microprocessors Advancements.
- 3. Learn How do you write a microprocessor program?
- 4. Learn addressing modes
- 5. What is assembly language programming in microprocessor?
- 6. Microcontrollers are typically programmed in higher-level languages such as C++ or Java.

	A.1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.
neral	A.2. Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions
Level A – General	A.3. Apply engineering design processes to produce cost- effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.
	A.5. Practice research techniques and methods of investigation as an inherent part of learning.
Level B - Speciality	
4- Course Contents	Syllabus: Introduction and historical review about microprocessors, Computer architecture, Difference between microprocessor and microcontroller, Definition of a CPU The 8 bits CPU, Assembly language for the used processor, Different busses of the microprocessor and the function and properties of each, Addressing modes, Interfacing with memory, Interfacing with inputand output ports, Developing a simple microcomputer using an 8 bit CPU the 16 bit CPU Interfacing with memory and input and output ports, Assembly language of the 8086 CPU Architecture of the 80186, 80286, 80386, 80486, an d Pentium microprocessors, Interrupts, DirectMemory Access, Cache memory, Register file.
	Laboratory: 01-04 Exp. # 1 - 4: Experiments on programming the 8 bits microprocessor used in this course either on a simulator or a kit. These programs must be gradually increased in difficulty from handling data between the microprocessor registers, and transferring data to and from memory using different addressing modes, and transferring data to and from input and

output ports.

05 Monitoring the signal on all the microprocessor control lines while

executing a very short closed loop program.

06 Building a microcomputer card consisting of the microprocessor, flash

memory contain the program, a ram chip to store some data, at least one

input and one output port.

07-09 Exp. # 7 - 9: Programming the 16 bit microprocessor with its assemblylanguage. These programs should deal with memory with different

addressing modes, Input and output programs, and dealing with subroutines.

# Topic	Lecture	Tutorial/Practical	No of hours
 Learn and understand what a microprocessor is, what it does, and how it works Learn Microprocessors Advancements. 	4	4	8
Learn How do you write a microprocessor program?	6	6	12
Learn How do you write a microprocessor program?	4	4	8
Addressing modes	8	8	16
What is assembly language programming in microprocessor?	8	8	16
Intruppt	4	4	8
Prorammes by assembly,	2	2	4
Total sum	36	36	72
5- Teaching and learning methods	 Lectures Tutorial Homew Reports Projects 	s. ork Exercises	
6- Teaching and learning methods for disable		a portion of the office he	ours for those

aturda ata		2	Cive them enceific techs and evaluate them:					
students		2.	Give them specific tasks and evaluate them in it.					
		3.	Repeat the explanation of some of the course					
].	material and tutorials.					
		4.	Assign a teaching assistance to follow up the					
			performance of this group of students.					
7- Teaching and learning m	ethods for low	1.	Assign a portion of the office hours for					
capacity students			those students and					
		2.	provide them with specific tailored tasks.					
			Repeat the explanation of some of the					
			material and tutorials.					
		4.	Assign a teaching assistance to follow up					
			their performance					
8- Teaching and learning m	ethods for	1.	Assign course project tasks to those					
outstanding students			students.					
, and the second		2.	Give them advanced extra-curriculum					
			topics.					
		3. Encourage them to take part in a pilot						
		L	research and case studies.					
9- Students assessment								
9- Students assessment								
a- Assessment			on (written/ online)					
methods	2. Practical Examir	natio	n					
	3. Oral Examinatio	n						
			presentation -reports)					
	5. Final Term Exam	ninat	tion (written)					
b- Assessment schedule	- Exercise sheet/ Lab	assig	nment: Weekly					
	- Quizz-1:		Week no. 5					
	- Mid-Term exam:		Week no . 8					
	- Quizz-2:		Week no. 12					
	- Final – term examin	atior	n: Week no. 16					
c- Weighting of	Class tutorial an	nd an	izzes: 10 %					
assessment	Mid-term exami	•						
assessment	 Lab/practical ex 		20 %					
	■ Final – term exa		ation: <u>60 %</u>					
			Total 100 %					
10- List of text books and re	eferences:							
a- Course notes	There are lectures	note	s prepared in the form of a book					
b- Text books/ References	Renu Sinah.	В.	P. Singh, Microprocessors Interfacing					
,	and Applicat							
			olishers, 2002.					
	■ Micro-Proc	cesso	or and Assembly Language					
	1,11010 110.		<u> </u>					

	 Directorate of Distance Education Maharshi Dayanand University ROHTAK – 124 001
c- Periodicals, Web sitesetc	

11-Course contents – Course related program competencies						
		Lev	el A			
	A.1	A.2	A.3	A.5		
 Learn and understand what a microprocessor is, what it does, and how it works Learn Microprocessors Advancements. 	1					
Learn How do you write a microprocessor program?	1	1				
Learn How do you write a microprocessor program?	1	1	1			
Addressing modes	1	1	1			
What is assembly language programming in microprocessor?	1	1	1			
Intruppt	1	1				
Prorammes by assembly,	√					

12-Teaching and learning methods - Course related program competencies							
	Level A						
	A.1	A.2	A.3	A.5			
Lecture (online/in class)	1	1	1				
Discussion	1	1	1				
Tutorial	1	1	1				
Problem solving	1	1	1				

Brain storming	1	1	1	
Projects	1	1	1	
Self-learning		1		
Research and Reporting			1	
Computer Simulation				
Teamwork				

13- Assessment methods - Course related program competencies							
Assessment methods Course related program comptencies							
			Leve	el A			
		A.1	A.2	A.3	A.5		
Mid Term Examination (written/ online)		1	1	1	1		
2. Practical Examination							
3. Oral Examination							
4. Formative (quizzes- presentation -reports)		1	1	1	1		
5. Final Term Examination (written		1	1	1	1		

Authorized from board of the department at 16/2/2023 Course coordinator:

Doctor. Soheir afifi

Ministerial Resolution 5053 - 12/10/2016

K 10, Bilbies – 10th of Ramadan



وزارة التعليم العالي المعهد العالى للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Signal Analysis			
Course Code	ECE 224			
Academic Year	2022-2023			
Coordinator	Dr. Amira A. Mahme	oud		
Teaching Staff	Dr. Amira A. Mahme	oud		
Level	Level (2)			
Semester	Second Term			
Number of Weekly	Lecture	2		
Contact Hours	Tutorial	2		
	Lab	-		
Department offering the	 Electronics a 	nd Communications Engineering,		
program	Computers and Systems Engineering,			
	Communications and Computer Engineering			
Department offering the	Electronics and Communications Engineering			
course				
2- Aim of the course				

- 1. To learn about Signals and systems: continuous time and discrete time.
- 2. To study the elementary signals.
- 3. To explain Linear Time Invariant Systems: continuous time and discrete time convolution, system properties.
- 4. To study the Fourier series representation of periodic signals: continuous time and discrete - time.
- 5. To define Continuous time and discrete time Fourier transforms and their properties.
- 6. To study the Frequency response of LTI systems.
- 7. To study the sampling of continuous time signals.

	A.1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.				
eneral	A.2. Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.				
Level A – General	A.3. Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical, and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.				
	A.5. Practice research techniq inherent part of learning.	ues and me	thods of investigatio	on as an	
Level B - Speciality					
4- Course Contents	Signals and systems: continuous - time and discrete - time, elementary signals, basic system properties.				
	Linear Time Invariant Systems: continuous - time and discrete - time convolution, system properties.				
	Fourier series representation of periodic signals: continuous - time and discrete - time.				
	Continuous - time and disc their properties.	crete - tim	e Fourier transfor	rms and	
	Frequency response of LTI systems. Sampling of continuous - time signals.				
# Topic		Lecture	Tutorial/Practical	No of hours	
discrete - tii	Signals and systems: continuous - time and discrete - time, elementary signals, basic system properties.		6	12	
- time and d	Linear Time Invariant Systems: continuous time and discrete - time convolution, system properties.		8	16	

Fourier series representation signals: continuous - time at time. Continuous - time at Fourier transforms and the	e and discrete - nd discrete - time	8	8	16	
Frequency response of L'Sampling of continuous -	•	6	6	12	
Total sum		28	28	56	
5- Teaching and learning methods		 Lecture (online/in class) Discussion Tutorial Problem solving Brain storming Projects Self-learning Research and Reporting Computer Simulation Teamwork 			
6- Teaching and learning methods for disable students		 Additional Tutorials Online lectures and assignments Using as many audio/visual aids as possible. Providing extra opportunities for practice 			
7- Teaching and learning methods for low capacity students		those s 2. provide 3. Repeat materi 4. Assign	the explanation al and tutorials.	ific tailored tasks.	
8- Teaching and learning methods for outstanding students		 Assign course project tasks to those students. Give them advanced extra-curriculum topics. Encourage them to take part in a pilot research and case studies. 			
9- Students assessment					
a- Assessment methods	 Mid Term Examination (written/ online) Formative (quizzes- presentation -reports) Final Term Examination (written) 				
b- Assessment schedule	- Exercise sheet/ Lab assignment : Weekly - Quizz-1: Week no. 5			5	

	- Mid-Term exam:	Week no. 8		
	- Quizz-2:	Week no. 12		
	- Final – term examination:	Week no. 16		
c- Weighting of	- Class tutorial and quizzes:	15 %		
assessment	- Mid-term examination:	15 %		
	- Final – term examination:	70 %		
	Tota	al 100 %		
10- List of text books and ref	- List of text books and references:			
a- Course notes	There are lectures notes prepa	red in the form of power		
	point.			
b- Text books/ References	R. Bailie, Energy Conversion Engineering, Addison -			
·	Wesley Publishing Company, Inc, 1983.			
	A. R. Foster and R. L. Wright, Basic Nuclear Engineering,			
	Allyn and Bacon, Inc, 198	99.		
c- Periodicals, Web sites etc	Web Sites related to signals and sys	stems.		

11-Course contents – Course related program competencies						
	Level A					
	A.1	A.2	A.3	A.5		
Signals and systems: continuous - time and discrete - time, elementary signals, basic system properties.	1		1	1		
Linear Time Invariant Systems: continuous - time and discrete - time convolution, system properties.	1	1		1		
Fourier series representation of periodic signals: continuous - time and discrete - time. Continuous - time and discrete - time Fourier transforms and their properties.	√	1	1	V		
Frequency response of LTI systems. Sampling of continuous - time signals.	1	1	1			

12-Teaching and learning methods - Course related program competencies

	Level A			
	A.1	A.2	A.3	A.5
Lecture (online/in class)	1	1	1	1
Discussion	1	1	1	1
Tutorial	1	1	1	1
Problem solving	1	1	1	1
Brain storming	1	1	1	1
Projects	1	1	1	1
Self-learning		1		
Research and Reporting			1	
Computer Simulation				
Teamwork		1	1	1

13- Assessment methods - Course related program competencies						
Assessment methods Course related program competencies						
			Leve	el A		
		A.1	A.2	A.3	A.5	
Mid Term Examination (written/ online)		1	1	1	1	
2. Formative (quizzes- presentation -reports)		1	1	1	1	
3. Final Term Examination (written		1	1	1	1	

Authorized from board of the department at 4/2/2023 Course coordinator:

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Dr. Amira A. Mahmoud

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وزارة التعليم العالي المعهد العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Modeling & Simulation of Engineering Systems			
Course Code	CSE225			
Academic Year	2022-2023			
Coordinator	Dr. Soheir Afifi			
Teaching Staff	Dr. Soheir Afifi			
Level	Level (2)			
Semester	Second Term			
Number of Weekly	Lecture	2		
Contact Hours	Tutorial	1		
	Lab	0		
Department offering the	 Electronics ar 	nd Communications Engineering,		
program	 Computers and Systems Engineering, 			
	Communications and Computer Engineering			
Department offering the	Computers and Systems Engineering,			
course				
2- Aim of the course				

2- Aim of the course

- 1. Define the basic terminologies used in controls systems.
- 2. Explain advantages and drawbacks of open-loop and closed loop control systems.
- 3. Obtain models of linear control systems in ordinary differential equation, transfer function, state space, or block diagram form.
- 4. Obtain overall transfer function of a linear control system using block diagram algebra
- 5. Simplify complex control system models using block diagram
- 6. Explain the relationship between system output response and transfer function characteristics

Define the basic terminologies used in controls systems.	4		4	8
in controls systems. Explain advantages and drawbacks of open-				
loop and closed loop control systems.	6		6	12
Obtain models of linear control systems in	_		4	0
ordinary differential equation, transfer function, state space, or block diagram form	4		4	8
Automatic Controllers	0		0	16
Closed-Loop System Subjected to a Disturbance Procedures for Drawing a Block Diagram	8		8	16
Block Diagram Reduction	8		8	16
	0			10
Modeling In State Space Correlation Between Transfer Functions and	4		4	8
State-Space Equations.	-		7	
Total sum		34	34	68
Total sulli				08
5- Teaching and learning methods	 Lectures Tutorials. 			
	3.		s. ork Exercises	
	4. Reports			
	5. Projects			
6- Teaching and learning methods for disable	Assign a portion of the office hours for those			
students	students. 2. Give them specific tasks and evaluate them in			aluata tham in
	2. Give them specific tasks and evaluate them in it.			
	3. Repeat the explanation of some of the course			of the course
			and tutorials.	
	4.		a teaching assistance to	
7. Tooching and learning math ada far law	1	_	ance of this group of stu	
7- Teaching and learning methods for low capacity students	1.	_	a portion of the office tudents and	110013 101
capacity students	2. provide them with specific tailored tasks.			ilored tasks.
	3. Repeat the explanation of some of the			
	material and tutorials.			
	4. Assign a teaching assistance to follow up			o follow up
			erformance	The second
8- Teaching and learning methods for	1.	Assign of student	course project tasks to	tnose
outstanding students	2			rriculum
	Give them advanced extra-curriculum topics.			Triculatii
	3. Encourage them to take part in a pilot			
	3.	Encoura	age them to take part	in a pilot

9- Students assessment						
a- Assessment methods	 Mid Term Examination (written/ online) Oral Examination Formative (quizzes- presentation -reports) Final Term Examination (written) 					
b- Assessment schedule	- Exercise sheet/ Lab assignment : - Quizz-1:	Weekly Week no. 5				
	- Mid-Term exam: - Quizz-2:	Week no. 8				
	- Final – term examination:	Week no. 16				
c- Weighting of assessment	 Class tutorial and quizzes: Mid-term examination: Final – term examination: Total	15 % 15 % 70 % 100 %				
10- List of text books and re	10- List of text books and references:					
a- Course notes	There are lectures notes prepared in the form of a book					
b- Text books/ References	 K. Ogata, Modern Control Engineering, Pearson, 5th. Ed., 2009 					
c- Periodicals, Web sitesetc						

	Level A			
	A.1	A.2	A.3	A.5
Define the basic terminologies used in controls systems.				
Explain advantages and drawbacks of open-loop and closed loop control	l syste	ms.		
Obtain models of linear control systems in ordinary differential equation space, or block diagram form.	, trans	fer fu	nction,	state
Automatic Controllers Closed-Loop System Subjected to a Disturbance Procedures for Drawing a Block Diagram	1	1	1	
Block Diagram Reduction	√	1	1	

Modeling In State Space	1	,	,	
Correlation Between Transfer Functions and State-Space Equations.	٧	√	1	
		l		i

12-Teaching and learning methods - Course related program competencies						
	Level A					
	A.1	A.2	A.3	A.5		
Lecture (online/in class)	1	1	1			
Discussion	1	1	1			
Tutorial	1	1	1			
Problem solving	1	1	1			
Brain storming	1	1	1			
Projects	1	1	1			
Self-learning		1				
Research and Reporting			1			
Computer Simulation						
Teamwork						

13- Assessment methods - Course related program competencies						
Assessment methods Course related program comptencies						
			Leve	el A		
		A.1	A.2	A.3	A.5	
1. Mid Term Examination (written/ online)		1	1	1	1	
2. Practical Examination						
3. Oral Examination						
4. Formative (quizzes- presentation -repor	ts)	1	1	1	1	
5. Final Term Examination (written		1	1	1	1	

Authorized from board of the department at 16/2/2023

Course coordinator: Doctor. Soheir afifi	ميرالاهوح	MICE STATE OF THE

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وزارة التعليم العالي المعهد العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Course Specification

1- Basic Information

Course Title	Principles of Negotiation			
Course Code	HUM 226			
Academic Year	2022-2023			
Coordinator	Dr/ aya salem			
Teaching Staff	Dr/ aya salem			
Level	Level (2)			
Semester	second Term			
Number of Weekly	Lecture 2			
Contact Hours	Tutorial 0			
	Lab 0			
Department offering the	 Electronics and Communications Engineering, 			
program	 Computers and Systems Engineering, 			
	 Communications and Computer Engineering 			
Department offering the	Electronics Engineering and Electrical			
course	Communication			
	Computers and Systems Engineering			

2- Aim of the course

- 1. introduce Negotiation: concept, attributes, and principles Dynamic nature of negotiation Interdependence Ethics of negotiation Psychological and social aspects of negotiation Cooperative and competitive negotiations
- 2. develop Good preparation of negotiation -
- management in Strategies and tactics of negotiation Organizing negotiation Using power in negotiation - Using questions and dealing with objections - Handling failures in negotiations -
- 4. expose the students to Best practices in negotiations (case studies).

A.5 Practice research techniques and methods of investigation as an inherent part of learning. A.7 Function efficiently as an individual and as a member of multi-disciplinary and evel A - General multicultural teams. A.8 Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools A.9 Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations. A.10 Acquire and apply new knowledge; and practice self, lifelong and other learning strategies. Speciality Level B -4- Course **Syllabus:** Contents Negotiation: concept, attributes, and principles - Dynamic nature of negotiation - Interdependence - Ethics of negotiation - Psychological and social aspects of negotiation - Cooperative and competitive negotiations - Good preparation of negotiation - Strategies and tactics of negotiation -Organizing negotiation - Using power in negotiation - Using questions and dealing with objections - Handling failures in negotiations - Best practices in negotiations (case studies). - العلاقات الاعتمادية - الطبيعة الدينامبكية للتفاوض - مفهوم و خصائص و مبادئ التفاوض التفاوض التعاوني والتفاوض - الجوانب النفسية والاجتماعية للتفاوض الجيد -اخلاقيات التفاوض الجو انب التنظيمية للجلسة - استر اتيجيات وتكتيكات التفاوض - الاعداد الجيد للتفاوض -التنافسي التعامل مع - استخدام الاسئلة والرد على الاعتراضات -النفوذ والتأثير في التفاوض -التفاوضية

# Topic		Lecture	Tutorial/Practical	No of hours
Negotiation: col attributes, and	•			
Dynamic nature – Interdepende	, and the second	6	0	0
Ethics of negotia	ation –			

Psychological and social aspects

.) حالة عملية (افضل الممار سات في التفاوض -فشل التفاوض المواقف الصعبة وحالات

of negotiation –					
and Cooperative competitive negotiations – Good preparation of negotiation	6	0	0		
tactics and Strategies of negotiation –					
Organizing negotiation - Using power in negotiation – and questions Using dealing with objections – in failures Handling negotiations –sses	8	0	0		
Best practices in negotiations (case studies).	10	0	0		
Total sum	28	0	0		
5- Teaching and learning methods	 Lecture (online/in class) Discussion brain storming Projects Self-learning Research and Reporting Computer Simulation Teamwork 				
6- Teaching and learning methods for disable students	 Additional Tutorials Online lectures and assignments Using as many audio/visual aids as possible. Providing extra opportunities for practice 				
7- Teaching and learning methods for low capacity students	 Assign a portion of the office hours for those students and provide them with specific tailored tasks. Assign a teaching assistance to follow up their performance 				
8- Teaching and learning methods for outstanding students	2. Give them a	se project tasks to those dvanced extra-curriculu hem to take part in a pi	ım topics.		

9- Students assessment					
a- Assessment methods	 Mid Term Examination (written/ online) Practical Examination Oral Examination Formative (quizzes- presentation -reports) Final Term Examination (written) 				
b- Assessment schedule	- Quizz-1:	Week no. 5			
	- Mid-Term exam:	Week no . 8			
	- Quizz-2:	Week no. 12			
	- Final – term examination:	Week no. 16			
c- Weighting of	- quizzes :	15 %			
assessment	- Mid-term examination:	15 %			
	- Final – term examination:	70 %			
	Total	100 %			
10- List of text books and re	ferences:				
a- Course notes	There are lectures notes prepared in the form of a book				
b- Text books/ References	anywhere around the world	negotiate anything with anyone d. New York: AMACOM.			
	Tinsley, C,, & Lytle, A. (2004 strategy. Negotiation Journ Adair, W. L., & Brett, J. M. (Time, culture, and behavior Organization Science, 16 (1)	al, 20, 87- 110. 2005). The negotiation dance: ral sequences in negotiation.), 33-51. Brett, J. M. (2001). Negotiation lide: The United States and sychology, 86, 371-85.			
c- Periodicals, Web sites	Tinsley, C,, & Lytle, A. (2004 strategy. Negotiation Journ Adair, W. L., & Brett, J. M. (Time, culture, and behavior Organization Science, 16 (1) Adair, W. L,, Okumura, T,, & behavior when cultures col Japan. Journal of Applied Ps. Adler, R. S. (2007). Negotiating with	4). Culture and negotiation al, 20, 87- 110. 2005). The negotiation dance: ral sequences in negotiation.), 33-51. Brett, J. M. (2001). Negotiation lide: The United States and sychology, 86, 371-85.			

11-Course contents – Course related program competencies

	Level	Level A			
	A.5	A.7	A.8	A.9	A.10
Negotiation: concept, attributes, and principles –	1	√			
Dynamic nature of negotiation – Interdependence – Ethics of negotiation – Psychological and social aspects of negotiation	1	7			
Cooperative and competitive negotiations – Good preparation of negotiation		√	1		
Strategies and tactics of negotiation – Organizing negotiation - Using power in negotiation –		√	٧		
Using questions and dealing with objections — Handling failures in negotiations —sses Best practices in negotiations (case studies				1	V

	Level A	\			
	A.5	A.7	A.8	A.9	A.10
Lecture (online/in class)	1				
Discussion	1	1			
Tutorial	√	1	1	√ √	
Problem solving		1		1	
Brain storming			1		
Projects			1	1	
Self-learning					1
Research and Reporting			1		1
Computer Simulation				1	

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Teamwork			V

13- Assessment methods - Course related program competencies						
Assessment methods Course related program comptencies						
	l	Level A				
	4	A.5	A.7	A.8	A.9	A.10
1. Mid Term Examination (written/ online)	1	V	1			
2. Practical Examination			1			
3. Oral Examination			1	1		
4. Formative (quizzes- presentation -reports)				1	1	
5. Final Term Examination (written					1	1

Authorized from board of the department at 11/2/2023 Course coordinator:

Dr./ aya .m. salem

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وزارة التعليم العالي المعهد العالي للهندسة الإلكترونية قرار وزاري 5053 – 2016/10/12 ك 10 طريق بلبيس العاشر من رمضان

Department offering the program: Electronics and Communications Engineering,

Computers and Systems Engineering,

Communications and Computer Engineering

Department offering the course: General

Course Specification

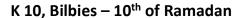
1. Course Basic Information:					
Course Code: 291 Course Title: Field Training 1 Academic years: 2021/2022 Level (2) – Semester : 2 nd					
Institute Requirement	Teaching hours:				
	Lecture: 0 Tutorial: 0 Lab: 6				

2. Course Objectives

قضى الطالب تدريبا ميدانيا بعد استكمالة لمقررات المستوى الثانى بالمعهد العالى للهندسة الالكترونية لمدة اربعة اسابيعوقد اظهار المهارات المهنية والعمليه التى اكتسبها خلال المناقشة بعد تسليم تقرير مفصل على مدى الاستفادة

3. Inten	ded Learning Outcomes: ARS	Course ILOs
A. Knowledge and Understanding:	تم التعرف على احد البرامج الهامه في مجالا الكهرباء A.1 وهو برنامج الماتلاب	A.1-1 Explain concepts of Fundamentals of MATLAB
B. Intellectual Skills		
C. Professional Skills	التدريب العملى على دوائر القوى الكهربيه وكذلك الالات . C.1 الكهربيه	التدريب على دوائر المحول من التيار المتمر الى .1-1. التيار المتغير والعكس التيار المتغير والعكس

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	التفاعل داخل العمل الجامعي اثناء التدريب D.3.	قام الطلاب بتقديم تقرير مفصل على الاجزاء التي -D.3
ਗੁ		استفادة منها وتم المناقشة في التقدير من اللجنة
Gener		,
Se Se		
9, 0,		

4. Course Contents

Syllabus: Students should spend 4 weeks in field training, after completing the Second level, in any Engineering Institution or Engineering Firms. Students should demonstrate the professional and practical skills they acquired during discussion with their assigned tutors.

يقضى الطالب تدريبا ميدانيا بعد استكمالة لمقررات المستوى الثانى باحد المؤسسات الهندسية او المعاهد الهندسية ولمدة اربعة اسابيع. وعلى الطلاب اظهار المهارات المهنية والعمليه التى اكتسبها خلال المناقشة مع المشرف الاكاديمي.

5. Teaching and Learning Methods

- Lectures
- Power point
- Research assignments

6. Teaching and Learning Methods for disable students

كان التدريب من خال الاتى التدريب على اهم او امر برنامج الماتلاب وكيفية العمل وتنفيذ الدوائر الكهربيه والعمليات الرياضية عليه التدريب على معمل الكترونيات القدرة التدريب علىي اهم قواعد البرمجه في نظم الحاسبات

7. Student Assessment	
a. Assessment Methods	اعمال السنه + المناقشة والتقرير ■
b. Assessment Schedule	التقرير + المناقشة
	№ 50 اعمل السنه
c. Weighting of Assessment	% 50 التقرير والمناقشة ■
	Total 100 %

8. List of text books and references			
a. Course notes	التدريب العملي وعرض البور بونت		
b. Text books	التدريب العملي		
c. Recommended books			
d. Periodicals, Web sites			

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etc	
•••••	

Course contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual Skills	C- Professional and Practical Skills	D- General and Transferable Skills
برنامج الماتلاب	1	A.1		C.1	D3
الكترونيات القدرة	2			C.1	D.3
الات كهربيه	3			C.1	D.3
برمجة الحاسب	4			C.1	D.3

Teaching and Learning Methods - ILOs Matrix

Teaching and Learning	A- Knowledge	В-	C- Professional	D- General and
Methods	&	Intellectual	and practical	transferable
Methods	Understanding	skills	skills	skills
Lectures				
tutorials				
Labs	A.1		C.1	D.3
Research assignments		_		

Assessment Methods - ILOs Matrix

Assessment Methods	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Weekly sheet exercises				
Labs	A.1		C.1	D.3
Quizzes				
Midterm exams				

Course coordinator:

Dr Saad Awad M. Abdelwahab

