

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Analog Communication		Module Delivery	
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code				
ECTS Credits	8			
SWL (hr/sem)	45			
Module Level	2nd	Semester of Delivery		2nd
Administering Department	ICE	College	KHW	
Module Leader	Dr.Adil Fadhil		e-mail	adilfadhil@kecbu.uobaghdad.edu.iq
Module Leader's Acad. Title	Lect.	Module Leader's Qualification	PhD.	
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name	Name		e-mail	E-mail
Scientific Committee Approval Date	17/03/2024	Version Number	1.0	

Relation with other Modules				
العلاقة مع المواد الدراسية الأخرى				
Prerequisite module	signals and systems, electrical and electronics circuits		Semester	2nd
Co-requisites module			Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	The course aims to give the student the following subjects: <ul style="list-style-type: none">- Deal with continuous-wave modulation systems- Deal with noise in continuous-wave modulation systems.- to develop students' ability to apply modern simulation software to system analysis.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. <ol style="list-style-type: none">1. -Introduce students to the basic concepts of signals, system modeling, and system classification;2. -to develop students' understanding of time-domain and frequency domain approaches to the analysis of continuous and discrete systems;3. -to provide students with necessary tools and techniques to analyze electrical networks and systems;4. -to develop students' ability to apply modern simulation software to system analysis.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A</u> – basics of signals and systems. -Introduce students to the basic concepts of signals, system modeling, and system classification [5 hrs] understanding of time-domain and frequency domain approaches to the analysis of continuous and discrete systems [10 hrs] Fundamental technological concepts, principles, and techniques associated with electronics and communications systems. [10 hrs] <u>Part B</u> - communication systems The structure of different communication systems. [20 hrs]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Students enrolled in this course will be required to demonstrate their more in-depth knowledge of the course material by solving additional, more challenging exam problems, recitation and documentations and analyze, formulate and solve
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engineering problems in the field of Communication Engineering.

Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	75	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	45	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	120		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects	1	10% (10)	Continuous	All
	Report		10% (10)		
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction
Week 2	Amplitude Modulation : DSB-SC
Week 3	Amplitude Modulation : Normal AM
Week 4	Amplitude Modulation : SSB-SC
Week 5	Amplitude Modulation :

	VSB-SC
Week 6	Angle Modulation: Introduction to FM and PM
Week 7	Angle Modulation: Narrowband FM/PM.
Week 8	Angle Modulation: Wideband FM/PM Analysis
Week 9	Direct and Indirect FM/PM generation
Week 10	Super heterodyne AM/FM receiver
Week 11	Frequency division multiplexing (FDM)
Week 12	Noise in Analog Communication: Introduction
Week 13	Noise in Amplitude Modulation
Week 14	Noise in Angle Modulation
Week 15	Figure of merit and SNR comparison of analog communication systems.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Amplitude Modulation : DSB-SC
Week 2	Normal AM
Week 3	SSB-SC
Week 4	FM and PM
Week 5	FM and PM
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Text book 1 : B. P. Lathi, "Modern Digital and Analog Communication Systems", McGraw Hill press, 2010	Yes
Recommended Texts		No
Websites	<ul style="list-style-type: none"> http://ece572.cankaya.edu.tr/course.php?page=Lecture%20Notes&do=sitemap https://lecturenotes.in/subject/359/optical-fibre-communication-ofc#video http://ecee.colorado.edu/~mcleod/teaching/ugol/lecturenotes/Lecture%2013%20Fiberoptic	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.