

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Error control coding		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory
Module Code			<input checked="" type="checkbox"/> Lecture
ECTS Credits	8		<input type="checkbox"/> Tutorial
SWL (hr/sem)	45		<input type="checkbox"/> Practical
			<input type="checkbox"/> Seminar
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	Probability and Information theory , digital communication systems	Semester	1st
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: Introduction to Error-detection Codes ,Linear Block Codes, Linear Block Codes, Cyclic Block Code, Cyclic Block Code,The,Convolutional Codes, Convolutional decoding: Viterbi Algorithm and BCH coding
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Learn how to measure the information and its relation with the communication systems. 2. Understand the information measurement methods. 3. Understand the different errors detection techniques. 4. Learn how to protect the data using channel coding.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A</u> - errors detection techniques Understand the different errors detection techniques. [15hrs] <u>Part B</u> - channel coding techniques Understand the different errors correction techniques. [30 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 engineering problems in the field of Information and Communication Engineering.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem)	35	Unstructured SWL (h/w)	2

الحمل الدراسي غير المنتظم للطلاب خلال الفصل		الحمل الدراسي غير المنتظم للطلاب أسبوعياً	
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	80		

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				
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	60% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Error-detection Codes
Week 2	Error-detection Codes
Week 3	Error-detection Codes
Week 4	Linear Block Codes
Week 5	Linear Block Codes
Week 6	Linear Block Codes
Week 7	Cyclic Block Code
Week 8	Cyclic Block Code
Week 9	Cyclic Code
Week 10	The Convolutional Codes
Week 11	The Convolutional Codes
Week 12	The Convolutional Codes
Week 13	BCH coding

Week 14	BCH coding
Week 15	BCH coding
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Stephen C. Wilson, "Digital Communication and coding", Prentice-Hall	Yes
Recommended Texts		No
Websites		No

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.