



MUTAH UNIVERSITY
Faculty of Engineering
Department of Electrical Engineering



Course Syllabus

Course Code	Course Name	Credits	Contact Hours
0401422	Communications (2)	3	3 T

INSTRUCTOR/COORDINATOR

Name	Dr. Amneh Al-Mbaideen
Email	a.mbaideen@mutah.edu.jo dr.a.almbaideen@gmail.com
Office Hours	

TEXTBOOK

Title	Electronics Communications Techniques.
Author/Year/Edition	Paul H. Young. Prentice Hall/2004/5th Edition.

Other Supplemental Materials

Title	Principles of Electronic Communication Systems
Author/Year/Edition	Louis E. Frenzel Jr./2014/4 th Edition

Other Supplemental Materials

Title	Modern Communication Circuits",
Author/Year/Edition	J. R. Smith, Second Edition, McGraw-Hill, 1998.

SPECIFIC COURSE INFORMATION

A. Brief Description of the Content of the Course (Catalog Description)

This course is an introduction to the concepts associated with the transceivers. It provides the students with a sufficient background in devices and circuits employed in communication systems, so it acquires them hands on experiences with the electronics of communication systems.

Resonance and tuning circuits, VCO, PLL, Frequency synthesis circuits, Oscillator circuits, RF&IF amplifiers, Power amplifiers, Transmitters Parts. Mixers, modulators. Receivers parts, demodulator circuits.

B. Pre-requisites (P) or Co-requisites (C)

Communications (1) (0401421) (P)

C. Course Type (Required or Elective)

Required						
SPECIFIC GOALS						
A. Course Learning Outcomes (CLOs)						
By the end of this course, the student should be able to:						
CLO1: Understand the principles behind communication circuits, including RF circuits. [1]						
CLO2: Understand the operation of electronic component in different communication circuits and systems. [1].						
CLO3: Understand, and analyze how to implement modulation schemes equations practically as electronic circuit utilizing electric components. And have the ability to design basic circuits in communication systems [1].						
B. Student Learning Outcomes (SOs) Addressed by the Course						
1	2	3	4	5	6	7
✓						
BRIEF LIST OF TOPICS TO BE COVERED						
List of Topics					No. of Weeks	Contact Hours
Resonance and tuning circuits, VCO, Frequency synthesis circuits					4	12
Oscillators.					1	3
Power amplifiers, Mixers					2	6
Modulation and Amplitude Modulation Systems. AM Transmitter Circuits. AM Receiver Circuits					3	9
FM Transmitter Circuits FM Receiver Circuits.					2	6
Phase Locked Loop (PLL).					2	6
Total					14	42

EVALUATION		
Assessment Tool	Due Date	Weight (%)
Mid Exam	According to the university calendar	30
Course Work (Homeworks, Quizzes, Projects, ...etc.)	One week after being assigned	20
Final Exam	According to the university calendar	50

ABET's Students Learning Outcomes (Criterion # 3)

Relationship to program outcomes	
ABET 1-7	Engineering Student Outcomes
1	√ an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3	an ability to communicate effectively with a range of audiences.
4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.