



**MUTAH UNIVERSITY**  
**Faculty of Engineering**  
**Department of Electrical Engineering**



**Course Syllabus**

Course Code	Course Name	Credits	Contact Hours
0401428	Analog Communication LAB	1	2 T

**INSTRUCTOR/COORDINATOR**

<b>Name</b>	Dr. Rula Alrawashdeh
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<b>Office Hours</b>	14:00-17:00 (Mon)

**TEXTBOOK**

<b>Title</b>	Lab Sheets
<b>Author/Year/Edition</b>	
<b>Other Supplemental Materials</b>	
<b>Title</b>	
<b>Author/Year/Edition</b>	

**SPECIFIC COURSE INFORMATION**

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

This laboratory is important for engineers wishing to emphasize the communications area. This course provides practical hands-on exposure to analog transmission techniques. It also introduces the concept of different transmission methods used in broadcasting i.e. (AM and FM) and how we can generate them using separate elements.

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

Communications (2) (0401422) (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 basic theories of analog communication in practice with the ability of visualization and practical implementation of double-side, single-side and suppressed carrier modulation and demodulation [6].

**CLO2:** Understand the function of each component in the analog communication system [6].

**CLO3:** Develop the ability to compare and contrast the strengths and weaknesses of various modulation techniques [6].

**CLO4:** Demonstrate an understanding of Frequency and Angle Modulation. [6].

**CLO5:** Work effectively in groups by sharing responsibilities and collaborating on findings [5].

### 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
Experiment 1: Introduction	1	2
Experiment 2: The signal source	1	2
Experiment 3: Tuned Circuits	2	4
Experiment 4: The Crystal	1	2
Experiment 5: The amplifier	1	2
Experiment 6: Filters.	1	2
Experiment 7: The balance modulator	2	4
Experiment 8: Single amplifier modulator	1	2
Experiment 9: Detection and Demodulation	2	4
Experiment 10: Frequency Modulation	1	2
Experiment 11: FM detection	1	2
<b>Total</b>	<b>14</b>	<b>28</b>

## EVALUATION

Assessment Tool	Due Date	Weight (%)
Reports	After each experiment	40

Course Work (Homeworks, Quizzes, Projects, ...etc.)	According to the university calendar	20
Final Exam	According to the university calendar	40

<b>ABET's Students Learning Outcomes (Criterion # 3)</b>		
<b>Relationship to program outcomes</b>		
<b>ABET 1-7</b>	<b>Engineering Student Outcomes</b>	
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.