

<b>Department of Electrical Engineering</b>			
<b>Communication Lab (63473)</b>			
<b>Total Credits</b>	<b>1</b>		
<b>major compulsory</b>			
<b>Prerequisites</b>	P1 : Communication Principles (63375) OR Communications (63322)		
<b>Course Contents</b>			
This course contains experiments that cover analogue and digital communication systems. At the beginning the students are introduced to different lab devices and software tools. Students will start with the analogue part where they will learn how to generate and demodulate different types of amplitude and frequency Modulations, moreover, they will study the effect of noise on these systems. Later in this lab, students will experiment digital communication operations such as Sampling, Quantization, Pulse Code Modulation, Pulse Time Modulation, Delta Modulation, data formats, Amplitude Shift Keying, Frequency Shift Keying and Phase Shift Keying.			
<b>Intended Learning Outcomes (ILO's)</b>		<b>Student Outcomes (SO's)</b>	<b>Contribution</b>
1	An ability to apply knowledge of communication theory and equations practically	B	30 %
2	An ability to design electronic component related to communication	C	40 %
3	Ability to simulate communication experiment using software tools	K	15 %
4	Ability to function in teams.	D	15 %
<b>Textbook and/ or References</b>			
Communication Lab Manual.			
<b>Assessment Criteria</b>		<b>Percent (%)</b>	
Laboratory Work		70 %	
Final Exam		30 %	
<b>Course Plan</b>			
<b>Week</b>	<b>Topic</b>		
1	Amplitude Modulation		
2	AM Demodulation and Single Sideband AM		
3	Frequency Modulation		
4	Frequency Demodulation and Phase Modulation		
5	Noise in Amplitude and Frequency Modulation		
6	Pulse Amplitude Modulation (PAM)		
7	Pulse Code Modulation (PCM)		
8	Delta Modulation		
9	Pulse Time Modulation		
10	Pulse Time Demodulation		
11	Data Format , ASK &FSK		
12	2PSK &4PSK		