

<b>Date:</b>	Examination No.:	Version:2021-2022	Start:1/9/2022
<b>Module Name - Code</b>	Communication-I		
<b>Module Language:</b>	English		
<b>Responsible:</b>	Mr. Velar Hikmat		
<b>Lecture (s):</b>	Dr. Thuraya Mahmood, Dr. Jalal Jamal,		
<b>College:</b>	College of Engineering – Salahaddin University-Erbil		
<b>Duration:</b>	15 week – 1 semester		
<b>Course outcomes:</b>	This course introduces students to the fundamentals of modern telecommunication system familiarization through exposure of need to modulation and demodulation Techniques. The course then develops students to appreciate simple discrete, and analog applications such as system modulation and demodulation. spectrum of signals, modulation and demodulation, Multiplexer, Encoders, transmitters and receivers systems, channel, noise, interference, distortion, errors, FDM, and calculating the bit rate of the transmitted and received signals.		
<b>Course Content:</b>	Base band communication signals and systems, Limitations and Communication's Frequencies, Communication Channels, Modulation & Amplitude Modulation (DSB), AM Transmission and Reception, Types of AM Modulation, Angle Modulation – Frequency Modulation, FM Transmission and receiver, Phase Modulation, Multiplexing-FDM, Pulse Modulation, Pulse Code Modulation.		
<b>Literature:</b>	<ul style="list-style-type: none"> <li>• M. L. Anand, “Electronic Communications”, first edition-2004. <a href="https://drive.google.com/file/d/1pzo8xVOGO_-lkROSg2n7cEiUhIaTELii/view?usp=sharing">https://drive.google.com/file/d/1pzo8xVOGO_-lkROSg2n7cEiUhIaTELii/view?usp=sharing</a></li> <li>• A. Bruce Carlson, "Communication systems", 4th edition <a href="https://drive.google.com/file/d/1D0ZcXJZfz8i1veeEBNayJeiBuasMQrgH/view?usp=sharing">https://drive.google.com/file/d/1D0ZcXJZfz8i1veeEBNayJeiBuasMQrgH/view?usp=sharing</a></li> <li>• Leon W. Couch, “Analog and Digital Communication system”, fifth edition-2007.</li> <li>• UNIVERSITI MALAYSIA PERLIS (UniMAP), "basic communication engineering" syllabus,</li> </ul>		
<b>Type of Teaching:</b>	3 hrs. in lectures "Theoretical" 2 hrs. in practical		
<b>Pre-requisites:</b>	None		
<b>Preparation Modules:</b>			
<b>Frequency:</b>	Spring Semester and Autumn Semester		
<b>Requirements for credit points:</b>	For the award of credit points, it is necessary to pass the module exam. It contains: <b>Three examination during the academic semester, Assignments and Final examination.</b> <b>Student's attendance is required in all classes.</b>		
<b>Credit point:</b>	6		

<p><b>Grade Distribution:</b></p>	<p>The following grade system is used for the evaluation of the module exam:  The module exam is based on the summation of two categories of evaluations:  <b>First: (50%)</b> of the mark is based on the academic semester effort which includes  - Three examination during the academic semester = 36%.  - Assignments = (4%).  Theoretical part 35%  Practical part 15%  <b>Second: (50%)</b> of the mark is based on final examination that is comprehensive for the whole of the study materials reviewed during the academic semester.  Theoretical part 40%  Practical part 10 %</p>
<p><b>Work load:</b></p>	<p>The workload is 135 hrs. It is the result of 45 hrs. attendance and 90 hrs. self-studies (Assignments, preparation for exam and applications).</p>