



Name of the Course: Microelectronics Technology

الفرقة الأولى

Name of the research point	Description
<b>RF semiconductor devices technology</b>	<ul style="list-style-type: none"><li>- History, Evolution, Research and Industry of RF Semiconductor Devices</li><li>- Different semiconductor technologies for RF transistors</li><li>- Performance Measurement Parameters of RF Semiconductor Devices</li><li>- Construction and Characteristics of a typical RF Semiconductor Device</li><li>- Applications of RF Semiconductors</li></ul>
<b>Thermo photovoltaic</b>	<ul style="list-style-type: none"><li>- Materials and typical structures</li><li>- Advantages and disadvantages of thermo photovoltaic systems</li><li>- Applications of thermo photovoltaic systems</li><li>- Thermal Emitters.</li><li>- Performance Parameters</li></ul>
<b>Theoretical performances of GAINAS thermo photovoltaic</b>	<ul style="list-style-type: none"><li>- The Basis of the Model</li><li>- Architecture of the Cells and Absorptivity Models</li><li>- Blackbody Theory and Flow Equilibrium</li><li>- Bulk Non-Radiative Recombination</li><li>- Design of the cells and Molecular Beam Epitaxy Growth</li></ul>
<b>Thermal Oxidation of Silicone</b>	<ul style="list-style-type: none"><li>- Types of Surface Oxides</li><li>- Practical Oxidation Systems</li><li>- Mechanisms and design rules for the thermal silicon dioxide films</li><li>- Additional Effects in the oxidation Process</li><li>- Assessment of Film Quality and choice of film type</li></ul>
<b>Lithography and Etching</b>	<ul style="list-style-type: none"><li>- Photoresist types</li><li>- Film Thickness</li><li>- Masks and Mask Making</li><li>- Mask Alignment</li><li>- Electron beam lithography and Chemical Etching</li></ul>

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