

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري لمادة : مبادئ ليزر

	Material Covered
Week	Syllabus
1	The electromagnetic spectrum , units
2	Laser process
3	Absorption of electromagnetic Radiation
4	Population inversion
3+4+5	Einstein Coefficients. Lasing Processes , Three- and Four-Level Lasers
6+7	The Optical Resonator, Basic components of a Laser system
8+9	Light and Blackbody Emission , Energy Levels, Radiative and Nonradiative Transitions in Molecules
10+11+12	Properties of Laser Radiation . Laser Gain. Linewidth. Thresholds for Lasing. Calculating Threshold Gain. Selective Pumping.. CW Lasing Action. Thermal Population Effects.
13+14	Solid-State, Dye, and Semiconductor Lasers
15	Gas, Chemical, Free Electron, and X-Ray Lasers
Week 16	Final Exam

