ECE 8562: Introduction to Photonics

Introduction to photonic systems. Course begins with an overview of ray, wave, and gaussian beam optics. Examples of several optical components, relavent to photonic systems, are discussed utilizing methods developed for these three optical domains. Laser concepts and technologies are next reviewed with applications in Fourier optics. Specific examples include image processing, optical correlation, and holography. Also examined are several technologies covering electro-optical, optical switches, and holographic inter- connections with applications in optical computing systems. Prerequisites: Undergraduate Electromagnetic Theory, Differential Equations
Credits: 3.0