

## Course Content

Course Title (English)	Optical Electronics
Course Title (Chinese)	光電子學
Credit	3
Instructor	Prof. Lung-Han Peng 彭隆瀚 教授
Outline	<p>Beginning with the point of view of experimental scientist, the aim of this course is to offer the students with the needed math tool and physics knowledge to conduct the research work and device/system applications on laser-based linear and nonlinear optics phenomena. This course covers the following topics:</p> <p>Electromagnetic waves in anisotropic media, Jones matrix representation of optical elements, ABCD matrix representation of optical elements for ray and Gaussian beam, optical resonator analysis and mode matching, laser oscillator and amplifier, optical parametric oscillator and amplifier.</p>
Goal	<p>Beginning with the point of view of experimental scientist, the aim of this course is to offer the students with the needed math tool and physics knowledge to conduct the research work and device/system applications on laser-based linear and nonlinear optics phenomena. This course also includes study in the classic papers related to the field of laser design and application. By such training, we hope that the students can develop a core capability to design and analyze their laser-related work.</p>
English Teaching	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Teaching Material	<input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese