# PLTT - Photonics and Laser Technology

**PLTT 100 Introduction to Photonics and Advanced Manufacturing: 3 Credits (3 Lec)**
This course gives an introduction/overview of photonics and manufacturing processes and covers the necessary background material for subsequent courses. The course discusses basic laboratory safety and ethics considerations, communication skills, basic technical mathematics, problem solving skills, and industry relevant software. The course includes visits to/from local companies for industry days that involve demonstrations and hand-on experiences introducing a sampling of the advanced topics introduced in this course.

**PLTT 101 Fundamentals of Light and Lasers: 5 Credits (3 Lec, 2 Lab)**
(Sp) Majors only. This course is designed to provide the foundation required to prepare technicians in the areas of optics, electro-optics, laser, and photonics. The course is designed for use as the introductory course in the A.A.S. program for Photonics and Laser Technology.

**PLTT 191 Special Topics: 1-3 Credits (1-3 Lec)**
his 14-week course gives an introduction/overview of photonics and manufacturing processes and covers the necessary background material for subsequent courses. The course discusses basic laboratory safety and ethics considerations, communication skills, basic technical mathematics, problem solving skills, and industry relevant software. The course includes several visits to/from local companies for industry days that involve demonstrations and hand-on experiences introducing a sampling of the advanced topics introduced in this course.

**PLTT 201 Laser Systems and Applications I: 5 Credits (3 Lec, 2 Lab)**
PREREQUISITE: PLTT 101. This course introduces the operation principles and characteristics of several different laser types and their practical applications. Lasers are a major subcategory of Photonics, therefore this is a required course for students enrolled in Gallatin College's A.A.S in Photonics and Laser Technology

**PLTT 202 Laser Systems and Applications II: 5 Credits (3 Lec, 2 Lab)**
PREREQUISITE: PLTT 101 and PLTT 201. (Sp) The intent of this class is to build upon the concepts learned in PLTT201 and PLTT101 while deepening students' understanding of how to characterize laser sources and photonic detectors using more advanced metrology and measurement techniques of optical components and systems
Repeatable up to 5 credits.

**PLTT 298 Internship/Cooperative Education or Final Project: 3 Credits (3 Lab)**
PREREQUISITE: PLTT 101, PLTT 201, ETEC 101, ETEC 106, ETEC 250. (Sp) This course gives the student a minimum of 150 hours of guided/mentored experience in a local professional or cooperative education setting. It provides monitored experience working with photonics devices, test and measurement equipment, processes and other industry partners. The student may fulfill course obligations through one of two avenues. Through industry employment, the students may obtain work-hour requirements while gaining requisite training. If this option is selected, the student must submit to industry mentor feedback to Gallatin College instructors and must also complete an end of course report as defined by the student's instructor. Alternately, the student may elect to do a final project outside of any employment obligation. In this scenario, an industry or academic mentor will be identified to work with the student on defining and implementing a final project utilizing industry relevant equipment. Here too, an end of course report as defined by the student's instructor will be required to satisfy course requirements
Repeatable up to 5 credits.