

# LASER TECHNOLOGY (LASER)

## LASER 100 Laser Fundamentals and Performance Tests 4 Units

Students will study the principles of photonics and learn the techniques and skills typically performed by an entry-level laser/electro-optics technician. Topics covered include optics and laser principles, laser performance analysis, and Good Laser Lab and Manufacturing Practices (GLLMP). LASER 100 is the introductory course leading to certificates and an AS Degree in Laser Technology.

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L  
 Advisory Level: Read: 3 Write: 3 Math: 3  
 Transfer Status: CSU Degree Applicable: AA/AS  
 For General Education (GE) information, please refer to assist.org  
 (<https://assist.org>) or consult a counselor.

Credit by Exam: Yes

## LASER 101 Rapid Laser Opto-Mechanics 3-D Prototyping 4 Units

Students will learn to prototype opto-mechanic parts using 3-D Computer-Aided Design (CAD) software and 3-D printers. Students study rapid 3-D prototyping, and print quality optimization of the parts. Course emphasis is on parts typically encountered on laser lab workbenches such as posts, rails, and mounts. This is the second course leading to certificates and an AS degree in Laser Technology.

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L  
 Advisory Level: Read: 3 Write: 3 Math: 3  
 Transfer Status: CSU Degree Applicable: AA/AS  
 For General Education (GE) information, please refer to assist.org  
 (<https://assist.org>) or consult a counselor.

## LASER 102 Intermediate Laser Technology 4 Units

Students learn the fundamentals of solid state laser technology and introductory theory of pulsed laser systems. Students also learn nonlinear optics, harmonics generation, and principles for q-switching. This class is one of the required courses leading to certificates and an AS degree in Laser Technology.

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L  
 Prerequisite: LASER 100 with C or better  
 Advisory Level: Read: 3 Write: 3 Math: 3  
 Transfer Status: CSU Degree Applicable: AA/AS  
 For General Education (GE) information, please refer to assist.org  
 (<https://assist.org>) or consult a counselor.

## LASER 103 Advanced Laser Technology 4 Units

Students study in-depth theory and treatment of pulsed and solid state lasers. Students will learn to assemble, troubleshoot, repair, and characterize a simple laser for optimal performance and determine laser and laser analyzer tolerances to establish their scopes and limitations.

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L  
 Prerequisite: LASER 100 with C or better  
 Advisory Level: Read: 3 Write: 3 Math: 3  
 Transfer Status: CSU Degree Applicable: AA/AS  
 For General Education (GE) information, please refer to assist.org  
 (<https://assist.org>) or consult a counselor.

## LASER 500 Introduction to Laser Technology 0 Units

Students will survey laser technology applications and careers in a variety of industries. Students will learn of various career preparation pathways and ways to connect with employers. Students will also be introduced to contextualized math as it applies to laser technology.

Lecture Hours: 1.5 Lab Hours: None Repeatable: Yes Grading: O  
 Transfer Status: None Degree Applicable: NC  
 For General Education (GE) information, please refer to assist.org  
 (<https://assist.org>) or consult a counselor.