

# LASER TECHNOLOGY - ASSOCIATE IN SCIENCE

Lasers are now the enabling devices of choice for many industries that range from medicine, entertainment, telecommunications, and aesthetics, to quality control. Their ubiquity has resulted in the sky-rocketing demand for personnel who are well-versed in laser technology for both technical and non-technical positions. We therefore give our students both theoretical and hands-on competencies needed to tackle most common problems and issues encountered in the laser/laser system environments through regular course and industry internships.

Students must satisfactorily complete all major and certificate courses with a grade of "C" or better and at least four courses must be completed at San José City College.

## Program Learning Outcomes

- Comply with ANSI and OSHA laser safety standards.
- Verify the quality of laser parts and sub-assemblies, applying appropriate standards.
- Build lasers/laser systems following prescribed procedures.
- Write and/or follow procedures for lasers/laser systems testing and operation.
- Verify a laser/laser system's reliability and compliance to performance specifications.
- Maintain and troubleshoot lasers/laser systems.

## Major Requirements

Course	Title	Credits
FMT 105	Introduction to Industrial Electronics and Controls	2.5
LASER 100	Laser Fundamentals and Performance Tests	4
LASER 101	Rapid Laser Opto-Mechanics 3-D Prototyping	4
LASER 102	Intermediate Laser Technology	4
LASER 103	Advanced Laser Technology	4
LASER 104	Fiber Laser Technology	4
PHYS 002A	Algebra/Trigonometry-Based Physics I <sup>1</sup>	4
MATH 013	Intermediate Algebra	5
Approved Electives		
Complete 7 units from the following major approved electives		
MACH 160 or LASER 160	Introduction to CNC Laser Applications Introduction to Laser Material Processing	5
LASER 098	Directed Study - Laser Technology	0.5-9
LASER 138	Work Experience	1-8
PHYS 002B	Algebra/Trigonometry-Based Physics II	4
<b>Total Units</b>		<b>42-57.5</b>

<sup>1</sup> May be used to meet science with laboratory general education requirement.

## A.S. Degree Requirements

Course	Title	Credits
Major Requirements		31.5
Approved Major Electives (See list below)		7
General Education Requirements		24
Physical Activity		1
<b>Total Units</b>		<b>63.5</b>

## Approved Major Electives

Course	Title	Credits
MACH 160 or LASER 160	Introduction to CNC Laser Applications Introduction to Laser Material Processing	5
LASER 138	Work Experience	1-8
PHYS 002B	Algebra/Trigonometry-Based Physics II	4