

EH&S Fast Facts

SAFE LASER PRACTICES FOR CLASSES 1, 2 & 3



The Principal Investigator is responsible for ensuring that lasers under his/her control are used safely. The following control measures are recommended as a guide to safe laser use.

Class 1 Controls

- No user safety rules are necessary, but general laser safety training should be provided to all users

Class 2 Controls

- Never permit a person to continuously stare into the laser source or point the laser at an individual's eye unless a useful, approved purpose exists

Class 3 Controls

- Never aim the laser at an individual's eye
- Permit only authorized personnel to operate the laser
- Enclose as much of the beam as possible - even a transparent enclosure will prevent individuals from placing their head or reflecting objects within the beam path
- Terminations (beam stops) should be used at the end of the useful paths of the primary and secondary beams
- Shutters, polarizers, and optical fibers should be placed at the laser exit to reduce the beam power to the minimal required level
- A warning light or buzzer should indicate laser operation
- All invisible beams (infrared lasers) must have a warning device
- Don't permit laser tracking of non-target vehicles or aircraft
- Operate laser only in a restricted area (closed lab, no windows and a warning sign on the door)
- The laser beam path must be out of the eye level of sitting or standing observers (below 4.5 ft or above 6.5 ft) - the laser should be mounted firmly so that the beam travels only along intended path
- Proper laser eye protection for the beam reflection must be worn if a potential eye hazard exists
- A key switch should be installed to prevent activation by unauthorized personnel
- Beams or reflections must never be directly viewed with optical instruments (telescopes/binoculars)
- Remove all mirror-like surfaces from within the vicinity of the laser beam path to avoid reflections
- Eye exams are mandatory for 3b lasers

Visit www.ehs.ucr.edu for additional information or call EH&S at 827-5528 if you have any questions.