**Lasers Under This Procedure:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Class (ex.** **3b, 4)** | **Model** | **Power** | **Wavelength (nm)** | **Type****(ex. Nd:Yag)** | **\*Eyewear OD Required** | **\*NOHD (m)** | **\*NHZ (m)** |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |   |  |  |  |  |  |
|  |  |   |  |  |  |  |  |
|  |  |   |  |  |  |  |  |
|  |  |   |  |  |  |  |  |

\* To be completed by LSO

**Procedure:**

* Only those personnel who have been trained in laser safety should align the laser. It is best to perform alignments with another trained person and exclude all unnecessary personnel during the period of alignment.
* Review all procedures before attempting the alignment. Make sure that all of the warning signs, lights, and locks are operating.
* Housekeeping is extremely important. The lab needs to be free of trip hazards or unnecessary equipment and gear which could hinder movement or disrupt an evacuation.
* The work area and optical table should be free of objects or surfaces that could reflect the light. Remove any watches or jewelry, including objects in shirt pockets and lanyards, and tape over rings so that they will not serve as reflectors. Make sure that any reflective surfaces in the area are blocked or covered.
* Assure all entrances to the lab are posted with proper laser signage and the lit laser signs are energized. Announce to lab personnel of use of laser and have anyone not involved leave the lab during the procedure.
* Wear protective eye wear at all times during the alignment. **Make sure that the OD is appropriate to the wavelength for the alignment of the laser.**
* Try to use low power visible lasers for determining the optical path. If this is not possible, try to use another laser (e.g. a low power HeNe) or even a stabilized laser pointer.
* Make sure that beam paths are at a safe height (not at eye level when seated or standing).
* When aligning invisible beams (UV or IR) use phosphor cards or image converter viewers so that the beam can be located.
* Pulsed lasers are aligned with single pulses if possible.
* If the laser is Q-switched, turn off the Q-switch and use low power, or CW.
* Enclose the beam as much as possible.
* Use beam blocks to block high-power beams at their source (except when the beam is actually needed for alignment).
* Use beam blocks behind optics (mirrors) if there is a possibility beams might miss the mirrors during alignment.
* Check for stray reflections before continuing the next part of the alignment process.
* Make sure all beams and reflections are terminated before high-power operations begin.
* The use of colored tape on the optical table to indicate the beam path can be very useful.

**Emergency Procedures:** In case of emergency, notify Laser System Supervisor at ext. \_\_\_\_\_\_\_

 **For emergency medical response call ext. 44911 on a campus phone or 978-934-4911**

 Report all incidents to the LSO at ext. 43373 or 43372

 If a laser injury occurs make sure to power down laser and post a sign to assure no one else uses the laser to avoid a second injury. Treat injuries immediately and as soon as possible notify the campus LSO.

**Authorized Personnel**

 The following personnel have reviewed this procedure and are adequately trained in laser safety through the lab’s specific procedures and by the Radiation Safety Office. He/she has demonstrated to the lab’s PI or designee an ability to follow applicable safety procedures and thereby authorized to align laser systems in this document.

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |