UNIVERSITY OF NORTH CAROLINA CHARLOTTE | ENVIRONMENTAL HEALTH & SAFETY

Laser Safety Fact Sheet

UNC Charlotte EHS has developed a Laser Safety Manual and supporting programs to help ensure the safety of laser users. Class 3B and 4 lasers can present a variety of hazards to both personnel operating the lasers and others through exposure to direct or reflected beams. The hazard classification is based on the risk of biological damage the laser may cause to eyes and/or skin. For research applications, ANSI Z136.8, Laser Safety in Research, Development, or Testing, should be consulted.

Hazard Evaluation

- When placing new lasers or moving existing ones the PI should identify laser hazards present in the work area using the Hazard Evaluation Checklist and implement appropriate hazard controls including ANSI approved signs and labels. EH&S will provide ANSI approved signs.

Inventory

- EH&S maintains an inventory for each Class 3b and Class 4 laser or laser system. Please submit an initial Laser Registration Form to the Laser Safety Officer.

Training

- General laser safety training is provided to each laser user (to include the physical hazards, health hazards, and emergency procedures) from EH&S. PIs should provide specific laser safety training to all users on individual lasers and document training using the Laser Registration Form.

Inspections

- Every lab with lasers is expected to participate in laser safety inspections provided by EH&S.

PPE

- Laser safety eyewear shall be used when operating laser or laser system. Eyewear should be clearly marked and inspected before use to ensure safety. For help selecting appropriate eyewear, please contact the laser safety officer.

Laser Safety Reminders

- Emergency stops should be clearly labeled.
- Emergency contacts should be kept updated.
- Warning light should be functioning.
- Windows or doors shall be protected from open beams.
- Beams should not be at eye level.
- Appropriate beam stops, barriers and/or attenuators shall be used. Regular paper or index cards are not acceptable.
- Optics need to be secured.
- Reflective materials should not be worn (e.g., watches or jewelry) or in laser area.
- Only qualified people should perform maintenance on lasers.
- Laser generated air contaminant (LGAC) should be identified and mitigated.
- Fire and explosion hazard should be minimized.
- Any compressed gas tanks need to be secured.

Laser Safety Resources

- UNC Charlotte Laser Safety Manual
- Laser Registration Form
- Laser Eyewear Fact Sheet
- Kentek laser hazard analysis software
- Laser safety officer:
  - Brian Stewart
    dstewa34@uncc.edu
- Deputy laser safety officer:
  - Linda Robles
    lrobles1@uncc.edu

Emergency Contacts

Dial 911 (campus phone)
704-687-2200 (external phone)