

## LASER STANDARD OPERATING PROCEDURE

### The University of Connecticut Laser Safety Program

Please complete the following form to request the use of a Class 3b or Class 4 laser. You must submit completed forms for review via email to [amy.c@uconn.edu](mailto:amy.c@uconn.edu) or print and send a hard copy to RADIATION SAFETY, 3102 Horsebarn Hill Rd., U-4097, Storrs, CT 06269-4097. Please keep a copy for your records. Upon completion of review, a final signed copy will be returned to the applicant.

**1. PRIMARY LASER RESEARCHER (PLR):**

**DEPARTMENT:**

Campus Location:

**2. LASER SYSTEM DATA:**

**A. LASER 1 DATA:**

Type:

Wavelength(s):

Classification:

Manufacturer:

Model:

Serial #:

Location Building:

Room:

UConn Laser #:

Beam Diameter:

Beam Divergence:

Pulsed:

Q-Switched:

Max. Energy per pulse:

Pulse Duration:

Repetition Rate:

Continuous Wave:

Max. Power:



**4. LASER SAFETY PROGRAM:**

Reference the University of Connecticut Laser Safety Manual for the following:

- Responsibilities of the Laser Safety Committee, Laser Safety Officer, Primary Laser Researcher (PLR), and Laser Users.
- Training requirements.
- Class 3b and Class 4 laser registration and disposal/transfer requirements.
- Medical screening (eye examination).
- Personal Protective Equipment (PPE), including protective eyewear.
- Standard Operating Procedures (SOPs).
- Signage and labeling requirements.
- Non-radiation hazards.

**5. LASER APPLICATION SUMMARY (complete a short summary of intended laser use):**

**6. HAZARDS PRESENT:**

Check off applicable hazards below. Please comment on **each hazard** present in the space provided. Describe the hazard and how it will be addressed, if applicable. **If additional space is required please continue on the additional sheet provided in Section 10.**

Yes  No  Open/accessible laser beam.

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Yes  No  Laser operations at eye level (standing or sitting).

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Yes  No  Ultraviolet radiation/blue light exposure.

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Yes  No  Non-beam related reflective surfaces (e.g. computer monitors, etc.) in vicinity of laser/laser beam(s).

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Yes  No  Stray beam(s)

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Yes  No  Exposed high voltage power supplies.

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Yes  No  Exposed capacitors.

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Yes  No  Collecting optics (e.g. microscopes, telescopes, etc.)

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Yes  No  Fumes/vapors.

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Yes  No  Plasma radiation.

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Yes  No  Compressed gases.

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Yes  No  Hazardous chemicals.

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Yes  No  Hazardous waste.

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Yes  No  Fire/Combustible Materials.

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Yes  No  Poor housekeeping.

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Yes  No  Other:

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## 7. CONTROLS:

Please check the controls present. If No or N/A is selected for a particular control, please provide additional detail or explanation in the space provided. **If additional space is required please continue on the additional sheet provided in Section 10.**

Yes  No  N/A  Entryway controls established (Engineered or Administrative).

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Yes  No  N/A  Control Area designated and appropriately posted.

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Yes  No  N/A  Nominal Hazard Zone (NHZ) established.

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Yes  No  N/A  Laser master switch (key or computer code). Key removed from laser system when not in use.

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Yes  No  N/A  Laser beam enclosure utilized.

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Yes  No  N/A  Laser beam enclosure interlocks operational.

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Yes  No  N/A  Laser housing cover interlocks operational.

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Yes  No  N/A  Appropriate beam attenuators (stops/dumps) utilized.

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Yes  No  N/A  Laser secured to base.

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Yes  No  N/A  Laser associated equipment secured to base.

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Yes  No  N/A  Protective barriers (e.g. curtains, partitions).

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Yes  No  N/A  UConn Laser Safety Manual available.

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Yes  No  N/A  Alignment Procedure Established

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Yes  No  N/A  Researcher conducted laser maintenance (routine adjustments etc. not to include servicing).

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Yes  No  N/A  Emergency off/stop (i.e. panic button) identified.

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Yes  No  N/A  Rapid egress and emergency access satisfactory.

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Yes  No  N/A  Personal Protective Equipment (PPE)

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Yes  No  N/A  Non-beam hazards addressed satisfactorily.

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Yes  No  N/A  Training requirements completed for all lab personnel.

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**8. EYEWEAR CRITERIA: (Discard damaged or unfit eyewear!)**

Please check off the appropriate eyewear criteria.

Yes  No  Sufficient pairs available.

\_\_\_\_\_

Yes  No  Eyewear specific to laser wavelength(s).

\_\_\_\_\_

Yes  No  Optical Density (OD) appropriate for all ranges of laser energy/power operations.

\_\_\_\_\_

Yes  No  Proper fit.

\_\_\_\_\_

Yes  No  Free of damage and or excessive scratches.

\_\_\_\_\_

**LASER EYEWEAR USE CHART**

For this laser:			Wear this eyewear:			
Type of Laser	Wavelength (nm)	Notes	Designation/Manufacturer	Wavelength attenuated (nm)	Optical Density (OD)	Notes







**10. ADDITIONAL SHEET**

Please use this sheet only if space provided above does not allow for a complete response.

**11. LABORATORY PERSONNEL LISTING:**

**Laser Users:**

**Training Complete**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

**Laser Non-users:**

**Training Complete**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

**12. LASER USER SOP REVIEW:**

**I have read this Standard Operating Procedure, understand the contents, and will utilize this procedure each time I use this laser or laser system.**

Name (print)	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

- **This SOP shall be:**
  - **Read and understood by laser users prior to their initial use of the listed laser.**
  - **Reviewed by all laser users following any modifications to the laser or laser system that affects operational parameters.**
  - **Reviewed annually by all laser users.**
- **This SOP must be readily accessible and available for reference by laser users.**
- **Modifications to this SOP must be reviewed and approved by both the PLR and the LSO.**

**PLR REVIEW:**

Date:

Name:

Signature:

**LSO REVIEW:**

Date and signature below documents Radiation Safety Office review with no exception taken to the information provided.

Date:

Name: Amy Courchesne

Signature: