



## UMBC Laser Specific Sign Instructions

**All signs must be displayed at locations where they can be easily recognized. Please note that laser specific signs should be used in conjunction with a general laboratory door sign (apply for a general door sign on [safety.umbc.edu](http://safety.umbc.edu)) so that all hazards within the laboratory can be communicated.**

The purpose of a laser specific sign is to convey a rapid visual hazard-alerting message that:

- a) Warns of the presence of a laser hazard in the area
- b) Indicates specific policy in effect relative to laser controls
- c) Indicates the severity of the hazard (e.g., class of laser, NHZ extent)
- d) Instructs appropriate action(s) to take to avoid the hazard (e.g., PPE requirements)

The major parts of a laser safety sign are the 1) signal word, 2) laser radiation hazard safety symbol, 3) the “message”.

### 1. Signal Words

- **"DANGER"** indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme conditions. The signal word "Danger" indicates that death or serious injury will occur if necessary control measures are not implemented to mitigate the hazards within the laser controlled area. This signal word is designated to Class 4 lasers with high (e.g., multi-kilowatt) output power or pulse energies with exposed beams.
- **"WARNING"** indicates an imminently hazardous situation that, if not avoided, could result in death or serious injury. The signal word "Warning" shall be used on laser area warning signs associated with lasers and laser systems whose output exceeds the applicable MPE for irradiance, including all Class 3B and some Class 4 lasers and laser systems.
- **"CAUTION"** indicates a hazardous situation that, if not avoided, could result in minor or moderate injury. It may also be used without the safety alert symbol as an alternative to "NOTICE." The signal word "Caution" shall be used with all signs and labels associated with Class 2 and Class 2M lasers and laser systems that do not exceed the applicable MPE for irradiance.
- **"NOTICE"** is the preferred signal word to address practices not related to personal injury.

## 2. Laser Radiation Hazard Safety Symbol



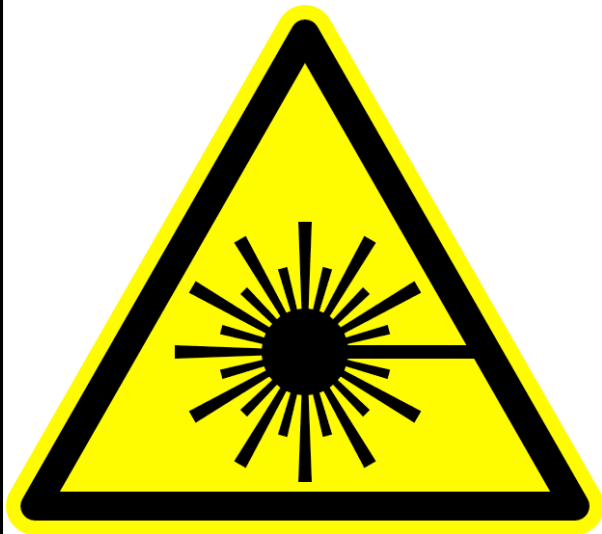
## 3. The Message

The message should include extra information required by ANSI Z1361.1 such as

1. The laser classification (highest hazard class of the laser or lasers within the laser controlled area)
2. Special precautionary instructions or protective action such as:
  - a. Avoid eye or skin exposure to direct or scattered radiation
  - b. Do not stare into beam directly
  - c. Authorized personnel only
3. The laser type and power (include wavelengths and max power/energy of laser)
4. Required OD of laser eyewear
5. LSO name and contact info (UMBC ESH, [esh@umbc.edu](mailto:esh@umbc.edu), (410) 455-2918)



# CAUTION



## Class 2 Laser in Use

Do not stare into beam or view directly with optical instruments.

Laser Type: \_\_\_\_\_

Wavelength (nm): \_\_\_\_\_

Power/Energy: \_\_\_\_\_

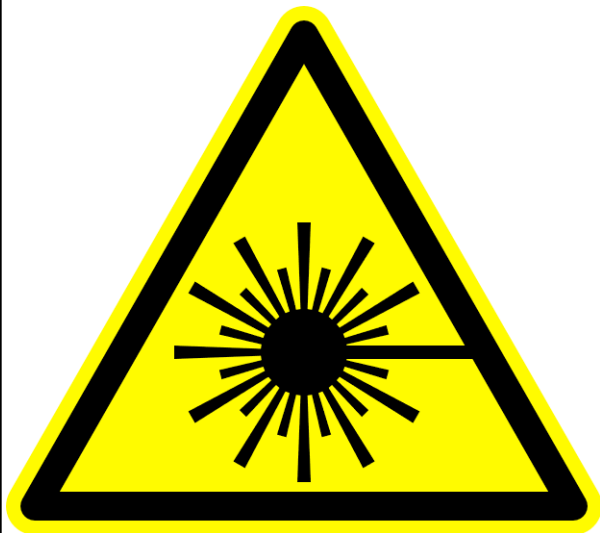
Laser Eye Protection

Recommended: OD \_\_\_\_\_ @ \_\_\_\_\_ nm

Emergency Contact: UMBC ESH (410) 455-2918 [esh@umbc.edu](mailto:esh@umbc.edu)



# CAUTION



## Class 2M Laser In Use

Do not stare into beam or view directly with optical instruments.

Laser Type: \_\_\_\_\_

Wavelength (nm): \_\_\_\_\_

Power/Energy: \_\_\_\_\_

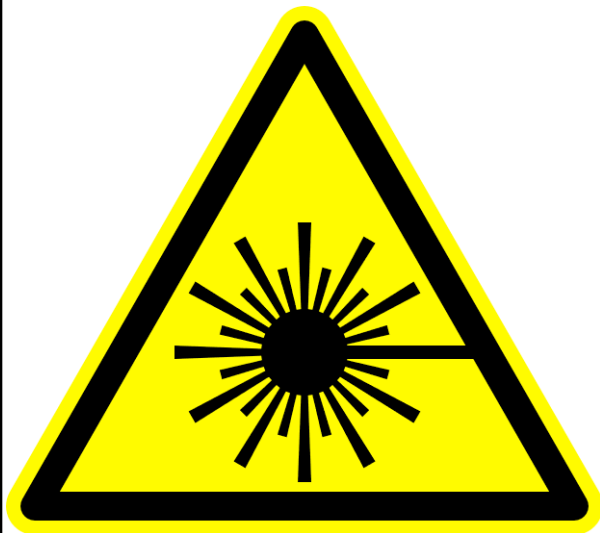
Laser Eye Protection

Recommended: OD \_\_\_\_\_ @ \_\_\_\_\_ nm

Emergency Contact: UMBC ESH (410) 455-2918 [esh@umbc.edu](mailto:esh@umbc.edu)



# CAUTION



## Class 3R Laser In Use

Do not stare into beam or view directly with optical instruments.

Laser Type: \_\_\_\_\_

Wavelength (nm): \_\_\_\_\_

Power/Energy: \_\_\_\_\_

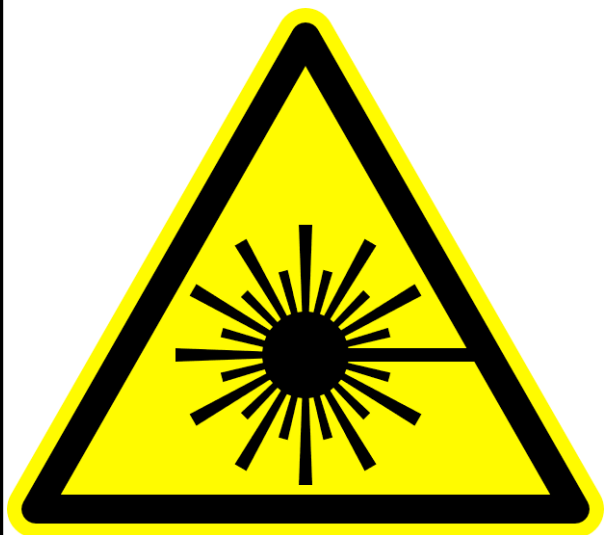
Laser Eye Protection

Recommended: OD \_\_\_\_\_ @ \_\_\_\_\_ nm

Emergency Contact: UMBC ESH (410) 455-2918 [esh@umbc.edu](mailto:esh@umbc.edu)



# WARNING



## Class 3B Laser Controlled Area

Avoid eye or skin exposure to direct or scattered radiation.

Do Not Enter When Light is Illuminated

Laser Eye Protection

Required: OD \_\_\_\_\_ @ \_\_\_\_\_ nm

Laser Type: \_\_\_\_\_

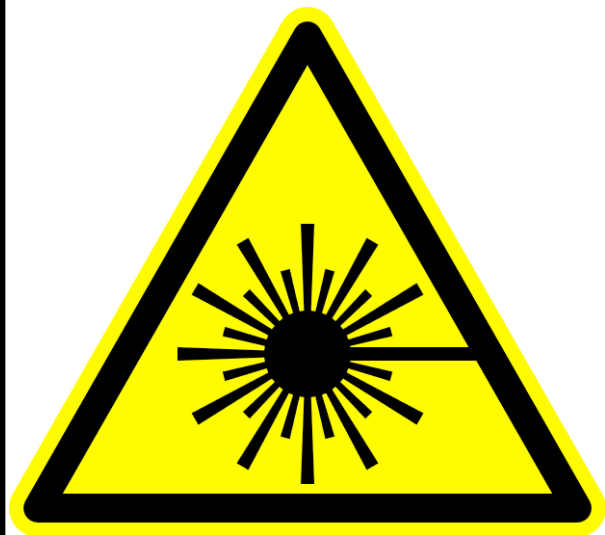
Wavelength (nm): \_\_\_\_\_

Power/Energy: \_\_\_\_\_

Emergency Contact: UMBC ESH (410) 455-2918 [esh@umbc.edu](mailto:esh@umbc.edu)



# DANGER



## Class 4 Laser Controlled Area

Avoid eye or skin exposure to direct or scattered radiation.

Do Not Enter When Light is Illuminated

Laser Eye Protection

Required: OD \_\_\_\_\_ @ \_\_\_\_\_ nm

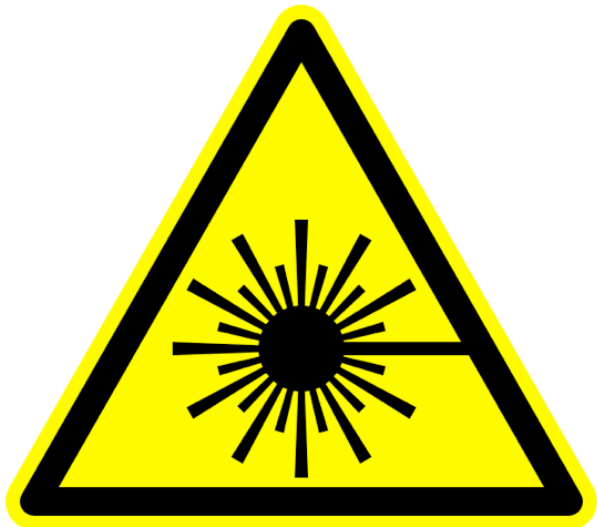
Laser Type: \_\_\_\_\_

Wavelength (nm): \_\_\_\_\_

Power/Energy: \_\_\_\_\_

Emergency Contact: UMBC ESH (410) 455-2918 [esh@umbc.edu](mailto:esh@umbc.edu)

# NOTICE



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