Framework for working with lasers

1	**Get registered as a laser user.** All users of laser equipment (with the exception of inherently safe Class 1 or Class 2 devices or embedded laser products such as those in laser printers or CD players) must register with the University Laser Safety Officer in Health and Safety using a user registration form, prior to them starting work	User Registration
2	**Check that the laser is registered.** All lasers (with the exception of inherently safe Class 1 or Class 2 devices or embedded laser products such as those in laser printers or CD players) must be registered with the University Laser Safety Officer in Health and Safety Department before they can be used.	Laser Registration
3	**Get trained in laser safety** All users of laser equipment must know and understand the risks associated with laser work and be competent to work safely. Anyone working with Class 3B and Class 4 lasers must attend Laser Safety Training. There are two levels of laser safety training, • Basic laser safety awareness – for all users of laser systems / applications (with the exception of inherently safe Class 1 or Class 2 devices or embedded laser products such as those in laser printers or CD players) • In-depth training about hazards associated with laser applications and methods of controlling hazards. All who design / build / supervise laser systems must attend the external course provided by the University Laser Protection Adviser In addition to laser safety awareness, the supervisor shall ensure all users of the laser system are trained in the correct use of the system, the use of the controls measures, the Standard Operating procedure for the system and the space in which it operates, and actions to be taken for foreseeable emergency situations. **Untrained or unauthorised staff must not be left to use lasers without supervision.** A description of local training procedures must be included as part of the safe system of work. Local training must be completed before starting work with a laser / laser application. The training must be given by a competent supervisor and include instruction based on information specified in the safe system of work e.g. a supervised session with the laser or laser application, following safe working procedures described in the safe system of work.	Laser Safety Awareness training Links Basic awareness videos Laser safety training request form
4	**Complete a laser risk assessment** A laser safety risk assessment must be completed before a laser is powered up. The laser safety risk assessment must be done in conjunction with a full risk assessment of the experiment / laser application. The laser risk assessment must be recorded in writing using forms provided (link to pro-formas).	Laser risk assessment

	Risk assessment for work involving use of lasers must be carried out by and or approved by staff who are properly trained in the laser risk assessment process (i.e. who have completed training specifically in laser risk assessment). Anyone carrying out work involving lasers must be provided with and understand a risk assessment for the work and be clear about the control measures which have been identified. More information and further guidance about laser hazards, hazard control and risk assessment is provided (link).	
5	**Complete a safe system of work (SSoW)** A safe system of work (also known as local rules) must be written. This accompanies the risk assessment and must describe how work procedures will be carried out, what and how controls identified in the risk assessment will be used, and what actions must be taken in the event of accidents (contingency measures). The safe system of work must be written before work starts and everyone involved with the work must be made familiar with it and understand the content. The safe system of work is of particular importance where an experiment contains open access to laser radiation without enclosure. Any system using un-enclosed laser beams must detail the reasoning behind this in the risk assessment and describe the safe operating procedure for the experimental process within the safe system of work.	Safe system of work Guidance for completing system of work
6	**Use Personal Protective Equipment (PPE) where identified as a control measure by risk assessment** Personal Protective Equipment e.g. laser protective eyewear (goggles) must only be used if a beam path cannot be enclosed or there is a risk of a laser user being exposed to the beam (Class 3B and 4 lasers). Protective eyewear must be appropriate for the power and wavelength of the laser used and the wavelength and scale number (L rating) must be clearly marked. For work with visible lasers, alignment goggles are recommended that permit the safe accidental viewing of the laser light. High L rated goggles must always be used when working with invisible laser beams. Visible light transmission and the ability to see warning lights are important considerations when choosing safety eyewear. Safety eyewear must never be relied on to provide protection against deliberate exposure to a laser beam but should be regarded as a means of providing some protection against accidental exposure. Fireproof protective clothing must be used if it is identified as a control measure.	Ocular hazards and controls
7	**Display correct Lasers warning signs and labels** Laser areas and instruments must be labelled correctly. The correct type and style of labelling and warning signs is described in a separate section	Laser classification and signage