



Laser Safety Policy

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1 University policy

1.1 General Safety

The Board of the College maintains a working environment in which the physical and mental well-being of the College community is maintained at the highest levels practicable, and provides a basis whereby the College is able to solve problems that arise in the working environment in co-operation with staff and students and their representative organisations.

The Board has appointed a College Safety Committee and a College Safety Officer to advise it on general matters of policy relating to safety; to supervise, develop and integrate the College safety system; to foster co-operation with staff and student representatives on safety matters; and to assist in ensuring compliance with health and safety legislation and regulation.

Ultimate responsibility for safety in College rests with the Board of the College.

A copy of the comprehensive College safety statement is available from the College Safety Officer, Director of Buildings Office, West Chapel. Individual school or department safety statements are available from school or department heads.

1.2 Laser Safety

To ensure the safety, health and welfare of our staff, students and visitors, it is the policy of University of Dublin to have nominated Laser Safety Officers in all Schools or Departments where class 3B and Class 4 lasers systems are in use or Class 1 systems which require access to the embedded lasers of higher classes. The role of the nominated Laser Safety Officer is to co-ordinate the safe use of lasers within The School or Department.

The University will appointment a competent Laser Safety Officer in the relevant schools and departments to ensure the health, safety and welfare of staff, students and visitors when working with non-ionising optical radiation.

The main legislation relevant is the Control of Artificial Optical Radiation at Work Regulations 2010 (S.I. No. 176 of 2010). The Regulations set out requirements relating to the control of the exposure of employees to artificial optical radiation at work, including Exposure Limit Values (ELVs), determination of exposure and assessment of risks, provisions aimed at avoiding or reducing exposure, employee information and training and health surveillance where required.

2 Procedures and guidance

2.1 2.1 Responsibilities of the Head of School or Department

It is a formal requirement of the University that all Schools and Departments where lasers systems are in use have designated Laser Safety Officers. It is the responsibility of the Head of School or Department to appoint an appropriate person in this capacity. It is recommended that the School or Departmental Safety Officer and College Laser safety officer should be consulted on this appointment.

Implementation of the University Laser Safety Policy within a particular Department lies with the Head of School or Department. The Head of School or Department should be satisfied that all relevant staff within their area of responsibility are aware of this policy.

2.2 2.2 Appointment of Laser Safety Officers

When appointing persons as Laser Safety Officers, serious consideration should be given to the amount of time necessary to adequately carry out the associated duties and the persons existing duties. Where necessary, some of the persons existing duties may need to be transferred to another person / post.

The School or Departmental Laser Safety Officer is an advisory and monitoring role. The responsibility for ensuring that information provided is incorporated into risk assessment, that risk assessments are carried out and complied with rests with the Academic Supervisor (see Section 2.5).

Persons appointed to the role of Laser Safety Officers should be sufficiently competent through experience and / or qualification to carry out the role. Alternatively they should be willing to undertake training (when necessary) to an acceptable level of competence. They should also be of sufficient seniority and experience to be able to carry out their duties in relation to laser safety with the recognised authority of the Head of School or Department.

Heads of School or Department shall ensure that the University Health and Safety Officer and College Laser Safety Officer are kept informed of the current nominated Laser Safety Officer for their department.

2.3 2.3 Training and competence of Laser Safety Officers

Departmental Laser Safety Officers shall, as a minimum standard, have undertaken training with the College Laser Safety Officer, or hold a formal qualification demonstrating competency in the safety and use of class 3B lasers or above.

The appointment of a Laser Safety Officer shall be considered as probationary by the University, until they have completed adequate training and displayed proficiency in Laser safety.

2.4 2.4 Duties of Laser Safety Officers

The primary role/duty of Laser Safety Officers is to ensure the safe use of lasers throughout their designated Department, on behalf of the Head of School or Department. The Laser Safety Officer will ensure lasers are used in line with the relevant regulations and standards, (see APPENDIX A). They will act as a source of advice on laser safety to staff and students whose work involves the use of laser equipment. They will liaise between The School or Department and the University Safety, Health and Welfare office on laser safety issues.

The specific duties of Laser Safety Officers shall be determined by the Head of Department, to suit the particular needs of the area. These shall be clearly documented and formally accepted by the nominated Laser Safety Officer. Typical duties of a Laser Safety Officer are

- Identifying all laser systems which could present a risk.
- Providing the CLSO with the relevant information to complete the Laser registration process.
- Ensure all signage and labelling is accurate for the Lasers and Designated Laser Areas
- Schemes of work practises are drawn up for the safe operation and maintenance of class 3B and 4 lasers.
- Assist the College Laser Safety Officer with identifying personnel wishing to operate or work within the vicinity of high powered laser systems so that they can be trained and registered.
- Ensuring that Laser safety eyewear, appropriate for the lasers systems being used, is provided and maintained.
- Ensuring that undergraduates are using the minimum possible laser power possible and following the written scheme of work.
- All systems are used in accordance with the recommendations given here and routine surveys are undertaken to ensure compliance.
- undertake appropriate training to an appropriate level of competence, thus enabling them to discharge their duties;
- be fully familiar with the University's Laser Safety Policy and assist the Head of Department to develop, implement and periodically review their local rules, procedures and policy;
- be responsible for advising on, or co-ordinating laser safety training required by research workers to ensure that adequate safety information, instruction and training is provided to laser users and any other laser area personnel;
- keep an inventory of all high powered lasers (class 3B and 4), used in their Department and

- Update the CLSO whenever new lasers are purchased or where systems are moved to new locations or changes in existing arrangements, which are liable to affect the risk in the use of a laser system.
- Monitor that all laser equipment and processes within their area are maintained in a safe condition and in compliance with appropriate statutory requirements.
- Liaise with the Safety, Health and Welfare office and the CLSO to establish risk assessment procedures, safe working practices and to ensure compliance with the University Laser Safety Policy.
- Oversee / review risk assessments for laser work areas and establish safe working procedures.
- Advise Research Supervisors who use lasers, on risk assessments and engineering and administrative controls.
- Monitor that safe working practices based on risk assessment are adopted locally, especially for postgraduate work, (in view of the fact that many postgraduate students generally work without direct supervision).
- participate in audits carried out by the Safety, Health and Welfare office as necessary;
- attend and contribute to The School or Departmental Health and Safety Committee;
- refer promptly to the Head of School or Department or University Health, Safety and Environment office, any health and safety problems which cannot be resolved in a timescale appropriate to the risk;
- Act with the delegated authority of the Head of School or Department in matters of urgency relating to laser safety.

2.5 2.5 Responsibilities of Academic Supervisors

Academic supervisors are responsible for the routine health and safety issues related to their individual experimental setups and research projects and carry personal responsibility for the completion of risk assessments whenever using lasers as part of their teaching or research duties.

It is the responsibility of individual academic supervisors to provide adequate supervision of their students (both postgraduate and undergraduate) to ensure they are working in a manner which is compliant with the risk assessment.

The supervisor should ensure that all the users are suitably trained and registered with the CLSO and that suitable supervision is provided for inexperienced users. They must ensure that the laser systems in use in their facility are registered with the Laser Safety Officer.

Responsibility for complying with the Laser Safety Policy rests initially with the Academic Supervisor and ultimately with the Head of School or Department.

2.6 Role of the College Laser Safety Officer and Advisor (CLSO)

To ensure there is a source of professional, impartial advice on laser safety, the University Health and Safety Officer will appoint a Laser Safety Advisor. The Laser Safety Advisor will provide advice to the University Health Safety & Environment office and to Laser Safety Officers.

- The Training of new staff, students and other personnel as required
- Registration of new users, laser systems and designated facilities
- Provision of advice and help regarding laser systems and safety equipment
- Inspection of new laser systems and facilities
- Routine auditing of laser facilities
- Investigation of accidents

The Laser Safety Advisor will undertake inspections of laser installations and advise on laser operation, practices and procedures etc. as requested by Laser Safety Officers or the Health Safety and Environment office.

2.7 Responsibilities of the Laser Users

Laser users within the University have responsibilities to themselves and others working within the vicinity of the laser system. The responsibilities of laser users are

- To complete the training with the laser safety officer and the registration process
- to observe the Policy / Guidance and Schemes of Work applicable to the lasers that will be used and to follow the guidance of supervisors and the Laser Safety Officer.
- Before commencing any work with Class 3B or 4 lasers a risk assessment is completed.
- To ensure all safety protocols regarding lasers are adhered to or by others in the area.
- Where required the appropriate laser eyewear must be used by themselves and others in the Nominal Hazard Zone.
- Communicate with and advise others in the room about the laser system.
- Work safely, if in doubt do not proceed and report any concerns to the Laser Safety Officer and / or the general Safety Officer.

2.8 Health, Safety and Environment office

To liaise with, and adequately support the University Laser Safety Advisor, Laser Safety Officers and Heads of School or Department in respect of laser safety matters.

Regularly review and amend the University Laser Safety Policy.

To maintain a centrally held register of all high powered lasers class 3B and 4 used in the University. The Safety, Health and Welfare office to be updated by Laser Safety Officers whenever new lasers are purchased or where there are significant changes to a system such as location or changes in existing arrangements, which are liable to affect the risk in the use of a laser system.

2.9 University Policy on After Hours and Lone Working

In all circumstances and at all times when a staff member or a student works alone the University will ensure, in accordance with its legal obligations, to subject the work to hazard identification and risk assessment(s) and ensure that agreed control measures are put in place to eliminate those hazards or reduce the risk as far as reasonably practicable.

Lone working outside of normal core hours must, additionally, be subject to an after-hours risk assessment in accordance with the College Policy on After-Hours Access.

Risk assessments must be approved in writing by the appropriate supervisor/Head. Lone workers must be in possession of such written approval.

The implementation of any controls indicated must be monitored by that supervisor/Head. Undergraduate students are acknowledged as a higher risk cohort than postgraduates, postdoctoral researchers and staff members. Undergraduate students whose work involves the use of, or interaction with, hazardous substances or equipment, in hazardous locations or with high-risk individuals are not permitted to work alone.

3 Definitions

Departmental Laser Safety Officer; A generic title adopted by the University that refers to the person within a School or Department who acts as the main focal point for laser safety matters as detailed in this document.

College Laser Safety Officer and Advisor: This is a dual post as the nominee fills the role of a Laser Safety Officer where required as well as the College Advisor. The CLSO has a responsibility to supply technical guidance or information to the Safety, Health and Welfare office to Departmental Laser Safety Officer's as required. To provide training and to maintain a college register of laser users and laser systems.

Laser user: A laser user in terms of the University is someone who works with high powered lasers or in the vicinity of such lasers. Both must be aware of the hazards and risks and adhere to the appropriate safety protocols.

The University: The University in regard to laser safety is considered to be the Trinity College Dublin campus in college green. The Dublin Dental University Hospital and St James Hospital are considered autonomous regarding laser safety and have their own local policies.

4 APPENDIX A

Regulations and guides

- Directive 2006/25/ EC of the European Parliament and Council of 5 April 2006 on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents
- Control of Artificial Optical Radiation at Work Regulations S.I. No. 176 of 2010.
- Guidance for Employers on the Control of Artificial Optical Radiation at Work Regulations 2010
- Non-binding guide to good practice for implementing Directive 2006/25/EC 'Artificial Optical Radiation'
- AURPO Guidance Note No. 7 GUIDANCE ON THE SAFE USE OF LASERS IN EDUCATION AND RESEARCH

Standards

- Irish Standard I.S. EN 60825-1:2014 Safety of laser products - Part 1: Equipment classification and requirements
- EN 207:2009 Personal eye protection equipment — filters and eye protectors against laser radiation (laser eye-protectors)
- EN208:2009 Personal eye protection — Eye protectors For adjustment work on lasers and laser systems (laser adjustment eye protectors)