



## BSc Health and Safety Systems Professional Experience Programme (PEP)

### BSc Health & Safety Systems

The BSc is a four-year (honours) denominated degree programme offered by the College of Science in NUI Galway. It is a multidisciplinary programme with students receiving tuition from academic disciplines such as Health Promotion, Law, Anatomy, Science and Engineering among others. The programme is workplace orientated and therefore the students are uniquely placed to make an immediate contribution to workplace health and safety.

### Primary areas of undergraduate training

Ergonomics	Workload assessments, Work Related Musculoskeletal Disorders (WRULDs), manual handling, workstation design, VDU assessments, selection of equipment and handtools, shiftwork, anthropometrics, job design and control and display design.
Law	Introduction to the Irish and European legal systems and their implications for health and safety issues. Sources of law. The courts system. The nature of criminal and civil proceedings. Legislation governing health and safety standards in the workplace. Policy considerations underlying the development of health and safety law.
Occupational Health	Impact of work environment, occupational health disorders, health care systems at work, Health Promotion stress, bullying, primary/secondary/tertiary prevention, the young worker, the older worker, the pregnant worker, toxicology, health promotion.
Occupational Hygiene	Air quality measurement, dust and vapours, ionizing radiation, nonionizing radiation, thermal environment, ventilation, noise and vibration, control of contaminants, management of occupational hygiene.
Safety and Risk Management	Safety management systems, safety standards, accident investigation and reporting, emergency response, safety data sheets (SDS), machine safety.
Safety Statements and Audits	Risk Assessments, Hazard and Operability Analysis (HAZOP), Failure Mode and Effects Analysis (FMEA), Energy Trace and Barrier Analysis (ETBA), Root Cause Analysis, Healthcare Failure Mode and Effects Analysis, Human Reliability Analysis.
Quality & Regulatory Affairs	Quality of design/conformance/ performance, process and control charts, flowcharts. Quality assurance, documentation, standards, TQM, quality costs, quality audits, cGMP, environmental standards.
Production & Operations	Organisational structures, product lifecycle, production planning and control, work study, process layouts, fabrication of metals, polymers, and plastics casting, forming, milling and metal joining.
Data Analysis	Questionnaire design, statistics, normal populations, hypothesis testing, tests of Epidemiology significance, trends, bio-statistics. Patterns of ill health in populations, risk factors, toxic exposures, study design.

### Skills acquired

Students have acquired the skills and techniques for the application of Health and Safety practice to professional standards. They are computer literate and have acquired relevant presentation and communication skills. Students also have a good understanding of business organisations, the work place and environment, and interpersonal relations.

**Students will also have completed the 'Safe Pass' Programme.**

**The BSc Health & Safety Systems programme is accredited by the institute of Occupational Safety and Health (IOSH).**





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### Health & Safety Students can carry out the following Roles:

- Compile and update safety statements.
- Conduct health & safety audits.
- Attend site safety meetings.
- Update accident and logbooks.
- Monitor air quality.
- Conduct occupational hygiene surveys
- Administer work permit systems.
- Carry out induction training.
- Check SOPs.
- Conduct risk management .
- Implement health promotion schemes.
- Compile accident reports.
- Carry out risk assessment.
- Implement health and safety training.
- Manage material safety data sheet.
- Carry out chemical assessment.
- Organise first aid courses.
- Organise fire fighting training.
- Assessment of occupational noise and vibration exposure in carpentry and joinery.
- Contribute to policies on bullying and harassment.
- Conduct QC/QA audits.
- Implement cGMP's.
- Contribute to QSR/QSIT.



### Final Year Projects

- A study of noise and vibration in a woodwork joinery.
- Health and safety audits; the acute healthcare sector.
- Attitudes to safety in the construction industry.
- The perceptions of invulnerability and young worker safety behaviour.
- Survey of the occupational health risks and concerns of prison personnel.
- A review of public employer liability claims.
- Medical laboratory health and safety; a perspective on ergonomic and psychosocial issues.
- The role of safety in road design.
- Quarry blasting – a safe working procedure.
- Safety management in a golf club.
- CE compliance in engineering workshops.
- A study of the risk factors of low-back injuries in airport baggage handlers.
- An evaluation of job design and employee satisfaction levels in clean room environments.
- Review and development of Safety Management Systems (SMSs).

