

**ICE - H,S&W Knowledge Network Group
Supporting Academia**

ice
Institution of Civil Engineers

**Delivering 'Health and Safety Risk
Management' in Degree Programmes**



H,S&W Knowledge Network
Group
Developing Future Professionals



Supporting Academia: ‘Health and Safety Risk Management’ in Degree Programmes

1. ICE Health and Safety and CDM Knowledge Networks Aim:

- a) To support academia as they produce well rounded engineering professionals who understand the importance of managing health and safety risk in the world of work;
- b) To strengthen and support the network of civil engineers and associated professionals developing future professionals by providing human and published resources;
- c) To support university and other tertiary education Civil Engineering Departments by developing up-to-date resources; and
- d) To support the delivery of the health and safety risk management elements of the Joint Board of Moderators’ requirements and broader professional development objectives.

2. Resources

The resources that ICE have developed have been bundled together around the broad structure of the key drivers - Moral/Economic/Legal - to assist in delivering the core learning that students will need to incorporate health and safety into their course and project work. The resources can be used to support self directed learning or can be used in the teaching and learning environment either as recorded lectures or delivered live, either on-line or in person. Ongoing support of the delivery of the resources can be provided by ICE Student Mentors. The resources can be co-branded with your institution’s identity and are available in editable format, where possible, should you wish to alter them, however we would prefer to do this for you.

The resources have been developed using ICE’s internationally recognised expertise to meet the health and safety requirement of the Joint Board of Moderators and other essential health and safety requirements that the Institution deems both essential and desirable. Where possible the resources have been presented in a format relevant to any jurisdiction however the world class nature of UK health and safety risk management is reflected in the resources. Where relevant, links have been made to the [United Nations - Sustainable Development Goals](#).

In addition the resources will provide students with the knowledge required to achieve 80% of that required by attribute 4 - Health, Safety and Welfare - [ICE Member’s attributes](#) thereby getting students firmly onto the ladder to professional recognition.

The table below illustrates ‘Units’ that have been identified to pull the learning outcomes into a coherent structure. These Units can be delivered piecemeal or in their entirety. More detail of the Units and the associated resources are available on the ICE Website - [_](#) which will also contains further information of the full range of associated topics and contact details to enable booking of industry practitioners selected by ICE HS&W Knowledge Network Leadership Group to deliver the material and to request the development of additional resources.

3. Mutual Support

The Institution of Civil Engineers - H,S&W Knowledge Network Group seeks to provide resources for teaching health and safety risk management, fostering work-ready graduates capable of enhancing the construction industry's safety performance.

In order to assist all our Academics Partners to meet the above objectives the network group would like you to:

- a) Assist with the delivery of H, S, W teaching within academic programmes
- b) Make material available on the ICE Website – [in the meantime you can contact the panel](#)
- c) Based on the resources that will be made available, universities will be able to pick from units of interest, choose the ones suitable to complement teaching and then direct students to the resources accordingly.

4. Unit Outlines

Unit 0 - Health and Safety Attitudes, Behaviors and Cultures

This, the introductory unit in the suite, will give the learner information about the nature of the industry and the range of ways that health and safety risk management are addressed. The learner will discover the disproportionate focus that the industry gives to safety over health issues. The unit will enable the learner to understand how the structure of the industry, especially the extended supply chains, leads to three quarters of the industry workers being self employed and the effect that this has on general attitudes and behaviors and how larger contractors try to improve these.

This unit will also enable learners to establish their own performances with respect to health and safety risk management and to understand how their attitudes, actions can lead to improvements in industry norms.

Unit 1 - Hazards and Risks

Unit 1 enables the learner to understand the hazards and risk that exist in the construction industry and the harms that can result from the poor management of them. Subsequent elements in this unit develop the learners understanding of how health and safety should be considered alongside other risk and how businesses and individuals might respond to these where there is a commercial conflict between health, safety and the other business drivers.

Unit 2 - Risk Management

This unit addresses the interdependencies between different risks faced by different businesses and how risk needs to be addressed throughout the construction lifecycle.

Building in the ideas of the elements of prevention through design, this unit will explore the need for buildability to be considered by designers and how temporary works can assist in the construction process whilst recognizing the risks associated with the management of temporary works. Subsequent elements will discuss the questions of usability and maintainability and ultimately the questions of deconstruction, demolition and reuse and the associated health and safety issues.

Unit 3 - Regulatory Framework

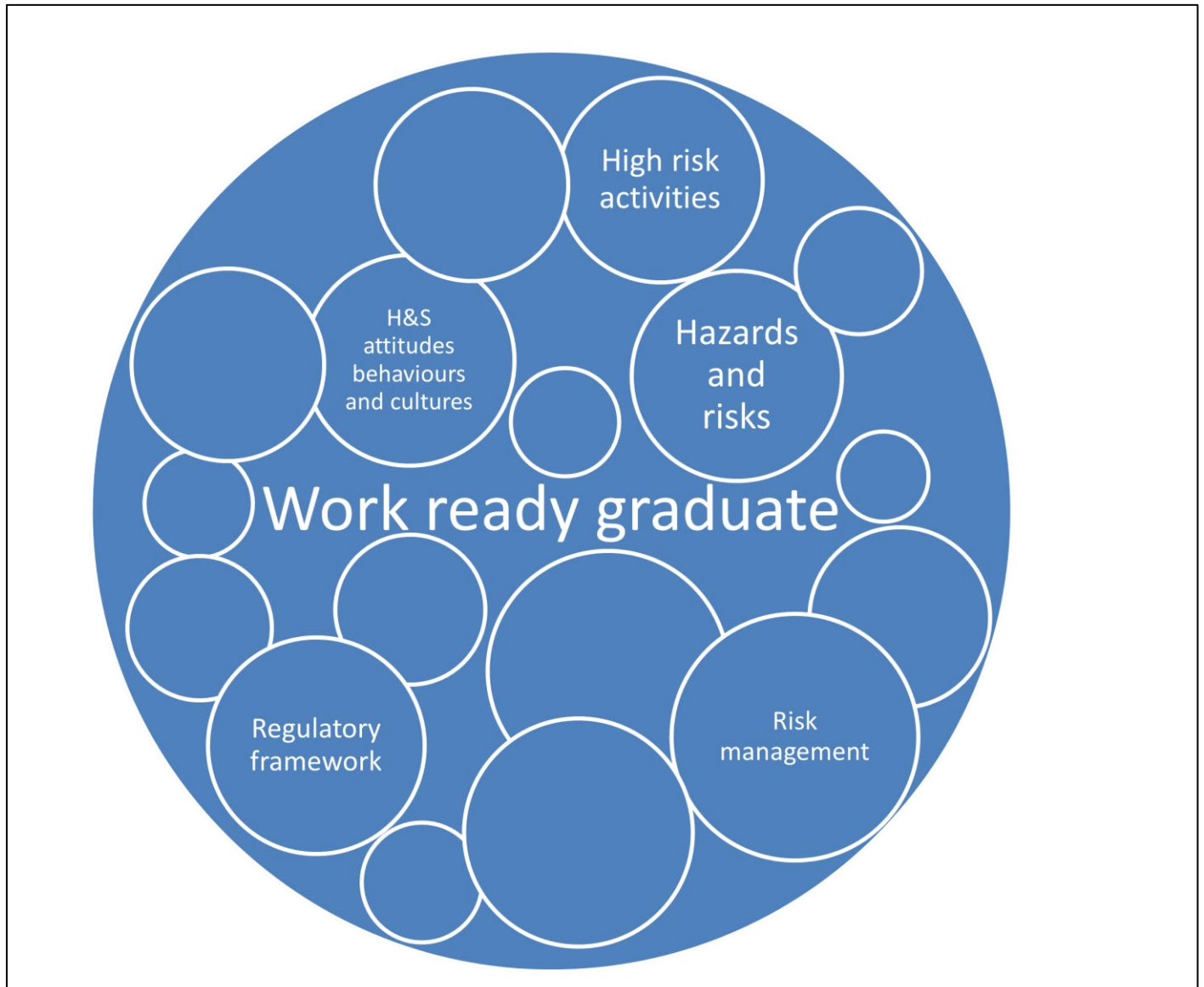
The moral and economic arguments for health and safety risk management having been presented in other units, this unit addresses the question of legislation. Recognizing that the regulatory regime varies between different countries but also the value that is added to the UK industry by UK legislation, this unit will explore how the structure provided by legislation and industry good practice may guide the actions of those involved in the industry.

Unit 4 - High Risk Activities

This unit explores the particular risk and associated control measures required in the high risk sectors of the industry. From designing for, and building on, brown field sites through temporary works to construction and demolition, this unit will enable learners to see how these risks might be addressed to ensure successful outcomes and the sources and use of specialist advice and the implications that this has for the design and construction process.

5. Role in education and training

The units fit into the overall education and training objectives alongside the other topics that are address in undergraduate courses. The image below illustrates the five main health and safety units with other course topics represented by the smaller circles (size does not imply importance). As indicated above other units can be developed.



6. 'Tutor' Support Criteria

The people who will be able to provide support to ICE Academic Partners are generally all chartered civil and structural engineers with proven specialism and competence in health and safety risk management - many of whom have delivered in formal educational environments.

7. Contact

Please contact ICE - H,S&W Knowledge Network Group (m.sackey@ucl.ac.uk) if you would like more detail about the Health, Safety and Welfare units which have been developed to meet the current Joint Board of Moderators (JBM), HS&W requirements and other core criteria. If you wish to access the resources or to have bespoke resources produced to suit your requirements, the ICE SH&W Knowledge Network Leadership Group would be pleased to assist.