1. **Title of the module**

CHEM3150 (CH315) - Disasters

1. **School or partner institution which will be responsible for management of the module**

Physical Sciences

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 4

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn

1. **Prerequisite and co-requisite modules**

None

1. **The programmes of study to which the module contributes**

BSc/BSc with Foundation Year/BSc with Year in Industry/MChem Chemistry

This is not available as a wild module.

1. **The intended subject specific learning outcomes.
On successfully completing the module students will be able to:**
2. Have a knowledge and understanding of core and foundation scientific chemical, physical and biological concepts, terminology, theory, units, conventions, and laboratory practice and methods in relation to the chemical sciences.
3. Ability to recognise and analyse problems and plan strategies for their solution by the evaluation, interpretation and synthesis of scientific information and data.
4. The ability to use computational methods for the practical application of theory and to use information technology and data-processing skills to search for, assess and interpret chemical information and data.
5. Skills in essay writing and presenting scientific material and arguments clearly and correctly, in writing and orally, to a range of audiences. The ability to communicate complex scientific argument to a lay audience.
6. The ability to collate, interpret and explain the significance and underlying theory of experimental data, including an assessment of limits of accuracy.
7. **The intended generic learning outcomes.
On successfully completing the module students will be able to:**
8. Communication skills, covering both written and oral communication.
9. Generic skills needed for students to undertake further training of a professional nature.
10. Problem-solving skills, relating to qualitative and quantitative information, extending to situations where evaluations have to be made on the basis of limited information.
11. Numeracy and computational skills, including such aspects as error analysis, order-of-magnitude estimations, correct use of units and modes of data presentation.
12. Information-retrieval skills, in relation to primary and secondary information sources, including information retrieval through on-line computer searches.
13. Information-technology skills such as word-processing and spreadsheet use, data-logging and storage, Internet communication, etc.
14. Interpersonal skills, relating to the ability to interact with other people and to engage in team working within a professional environment.
15. Time-management and organisational skills, as evidenced by the ability to plan and implement efficient and effective modes of working. Self-management and organisational skills with the capacity to support life-long learning.
16. Study skills needed for continuing professional development and professional employment.
17. **A synopsis of the curriculum**

Chemistry in context:

In this module, you will study particular cases in which disasters occur (for example, explosions, volcanic eruptions, exposure to chemical warfare agents and accidents in the chemical industry), either as a result of human participation or in the natural course of events. We will explore how science, and in particular chemistry, is integral to the understanding and mitigation of such events. You will then focus on an aspect particular disaster and give a short oral presentation on it alongside a written report and press release. Note: this module constitutes the writing component required by the Royal Society of Chemistry.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**
* Limitations of Science; Sullivan, J.W.N. (1933)
* Slide Rule; The Autobiography of an Engineer; Shute, N. (1956)
* War and Peace; Tolstoy, L. (1993) (NB. Epilogue ONLY)
1. **Learning and teaching methods**

Total contact hours: 13

Private study hours: 137

Total study hours: 150

1. **Assessment methods**
	1. Main assessment methods

Seminar (5 minutes, 20%)

Assignment (5 hours, 20%)

Essay (40 hours, 60%)

13.2 Reassessment methods

Like-for-like

1. **Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *8.5* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5*  | *9.6* | *9.7* | *9.8* | *9.9* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| *Lectures* | **x** | **x** | **x** | **x** | **x** |  |  |  |  |  |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Press release | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| Presentation |  |  |  | **x** | **x** |  |  |  |  |  |  |  |  |  |
| Essay | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

Chemistry is an international subject with physical laws discovered and techniques developed and refined by scientists across the globe. Mastery of the subject-specific learning outcomes will equip students to apply the theories and techniques of this module in a wide range of international contexts. The module team is drawn from the School of Physical Sciences, which includes many members of staff with international experience of teaching and research collaboration. In compiling the reading list, consideration has been given to the range of texts that are available internationally and a selection of texts has been identified to complement the delivery of the material. The support SPS provides to its students is also internationally attuned given our international student body.

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**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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Revised FSO Jan 2018