1. **Title of the module**

PSCI0022 (PS022) – Chemical Reactivity

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

Division of Natural Sciences

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

Level 3

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

30 Credits (15 ECTS)

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

Spring

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

None

1. **The course(s) of study to which the module contributes**

Compulsory for BSc (Hons) Chemistry with a Foundation Year; and BSc (Hons) Forensic Sciences with a Foundation Year

Not available as an elective module choice.

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

8.1 Demonstrate knowledge and understanding of a range of chemistry-based topics.

8.2 Demonstrate experimental laboratory skills.

8.3 Solve chemistry-based problems.

8.4 Interpret data on chemistry-based topics.

1. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**

9.1 Receive and respond to a variety of sources of information (e.g. textual, numerical, verbal, and graphical).

9.2 Employ a variety of methods to solve problems (especially numerical) including the use of computers.

9.3 Use self-management plus organisational skills and to support life-long learning.

1. **A synopsis of the curriculum**

This module will cover lattice energy; polymorphism; chemical equilibrium; the Periodic Table; solubilities; transition metals; isomerism; organic chemicals; shapes of organic molecules; organic analysis; optical activity; basic reactions of organic compounds; organic problem-solving; reaction kinetics.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

Burrows, A. et al., (2013). *Chemistry3: Introducing Inorganic, Organic and Physical Chemistry*, Second Edition, Oxford: Oxford University Press.

Matthews, P. (1992). *Advanced Chemistry*, Cambridge: Cambridge University Press

1. **Learning and teaching methods**

Total Contact Hours: 80

Total Private Study Hours: 220

Total Study Hours: 300

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

* Lab Experiments (3 hours each) – 20%
* In-Course Test 1 (1 hour) – 10%
* In-Course Test 2 (1 hour) – 10%
* Examination (2 hours) – 60%

The lab experiments are compulsory sub-elements and must be passed to complete the module.

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* | *9.1* | *9.2* | *9.3* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |
| Private Study | **x** |  | **x** | **x** | **x** | **x** | **x** |
| Lecture | **x** |  | **x** | **x** | **x** | **x** | **x** |
| Laboratory Practical | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |  |
| Lab Experiments | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| ICTs | **x** |  | **x** | **x** | **x** | **x** |  |
| Examination | **x** |  | **x** | **x** | **x** | **x** |  |

1. **Inclusive module design**

The Division 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 and industry. Chemistry principles are discovered, techniques are also developed, refined and shared by chemists 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 support and activities provided by the Division of Natural Sciences to its students is also designed with our international student body in mind.

**DIVISION USE ONLY**

**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 delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
| 28/02/19 | Major | September 2019 | 8-9,13-14 | no |
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| Revised FSO Jan 2018 |