**SECTION 1: MODULE SPECIFICATIONS**

1. Title of the module

**BIOL1041 Basic Laboratory/Industry Skills**

1. School which will be responsible for management of the module

**Medway School of Pharmacy**

1. Start date of the module

**Summer 2012**

1. The cohort of students (onwards) to which the module will be applicable

**2012**

1. The number of students expected to take the module

**10-30 per cohort**

1. Modules to be withdrawn on the introduction of this proposed module and consultation with other relevant Schools and Faculties regarding the withdrawal

**N/A**

1. Level of the module *(e.g. Certificate [C], Intermediate [I], Honours [H] or Postgraduate [M])*

**C**

1. The number of credits which the module represents

**15 credits**

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

**The module is part of the Foundation Degree in Applied Bioscience Technology which is being delivered primarily through e-learning on a part-time basis over three years.**

1. Prerequisite and co-requisite modules

**None**

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

**Foundation Degree in Applied Bioscience Technology**

1. The intended subject specific learning outcomes and, as appropriate, their relationship to programme learning outcomes

* Have an appreciation of the importance of Health and Safety in the laboratory (**POs: A10, C20, C23)**
* Demonstrate a range of fundamental laboratory/industry skills with an aptitude to develop others in the future (**POs: A10, C20, C22, C24)**
* The ability to use scientific method to test an hypothesis or theory (**POs: B15, C29)**
* The ability to generate, evaluate, interpret and present practical work (**POs: A2-A4, A8, A10, B14, B15, B19, C21, C22, D28, D29**)
* Show an understanding of the role of the laboratory technician/process operator in industry (**POs: A9, D33)**

1. The intended generic learning outcomes and, as appropriate, their relationship to programme learning outcomes

* The development of practical laboratory/industry based skills (**POs: C20-C22, C24**)
* An ability to analyse, evaluate and correctly interpret data (**POs: A2-A4, B14, B15, B19, C21, C22, D28, D29**)
* An ability to present and communicate data (**POs: D26, D27**)
* An ability to obtain and use information from a variety of sources as part of self-directed learning (**POs: D25, D32, D33**)
* Time-management and organisational skills within the context of self-directed learning (**POs: D31-D33)**

1. A synopsis of the curriculum

* Health and safety in the workplace and relevant legislation.
* Basic science skills such as GLP, keeping a laboratory notebook, making and recording measurements, identifying sources of error.
* SI units, concentration (molarities), dilutions.
* Preparation and use of buffers. Definition of pH and its relevance in biological systems. Acids and bases together with titrations.
* Use of a range of standard equipment found in the bioscience sector.
* Generation and presentation of data (tables and graphs), together with writing laboratory reports.
* The application of Scientific Method.
* Use of mathematical calculations and statistics in planning and analysis of experiments.

1. Indicative Reading List

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| --- | --- | --- | --- | --- |
| **ISBN number** | **Author** | **Date** | **Title** | **Publisher** |
| 9780470661567 | David Adams | 2011 | Effective Learning in the Life Sciences | Wiley-Blackwell |
| 9781846192104 | Michael McGhee | 2008 | A guide to Laboratory investigations | Radcliffe |
| 9780340593240 | G.M. Clarke | 1994 | Statistics and Experimental Design – An introduction for Biologists and Biochemists. | Edward Arnold |

1. Learning and Teaching Methods, including the nature and number of contact hours and the total study hours which will be expected of students, and how these relate to achievement of the intended learning outcomes.

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| --- | --- | --- | --- | --- | --- |
| **Activity** | **e-learning** | **e-activities/**  **Practicals / Work activities** | **MSCL / CAL** | **Total hours** | **Learning Outcomes** |
| Teaching | 15 | 10 | 5 | **30** | **A2-A4, A10, B13, B15, B19, C21, C22, D28, D29** |
| Private study |  | 18 |  | **18** | **A2-A4, A10, B13, B15, B19, C21, C22, D28, D29** |
| Work-based experience |  | 100\* |  | **100\*** | **A2-A4, A8, A10, B13-B16, B19, C20-C22, C24, D25-D29, D31-33** |
| Formal assessment |  |  |  | **2** |  |
| **Total hours** |  |  |  | **150** |  |

\* It is anticipated that many of the practical/industry skills will be covered in the work place. However, it is recognised that a number of these will be covered during a residential summer school at the University of Kent.

**Online e-learning** is intended to present some key information directly relating to the learning objectives.

**E-activities, practicals and work activities** will be used specifically to enhance the practical/industry skills required by the students in their current and future roles in the work place.

**MSCL** serves to reinforce and support materials presented in the above forms in the students’ minds. They also form part of the self-directed learning for the student.

**Private study** provides the opportunity to explore and read more widely around specific topics.

1. Assessment details: Assessment methods and how these relate to testing achievement of the intended learning outcomes.

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| --- | --- | --- | --- |
| **Method of assessment** | **Learning outcomes assessed (POs & SSLOs)** | **Weighting** | **Outline details** |
| Continuous assessment (1) | A2-A4, A8, A10, B13, C20-C22, C24, D27, D28, D29, D33 | 50% | Production of a new SOP, together with a short report on the generation of a limited data set. |
| Practical examination | All subject specific learning outcomes (SSLOs) | 50% | 1 hour practical examination |

**The pass mark for this module is 40%. The aim of the assessment is to assess the practical/industry skills of the student.**

1. Implications for learning resources, including staff, library, IT and space

**The programme will be delivered using Moodle as a Virtual Learning Environment (VLE) and myFolio will be used to hold all Reflective Portfolio entries and Personal Development Plans. The University laboratories and equipment will be used to run a residential summer school.**

1. **The School recognises and has embedded the expectations of current disability equality legislation, and supports students with a declared disability or special educational need in its teaching. Within this module we will make reasonable adjustments wherever necessary, including additional or substitute materials, teaching modes or assessment methods for students who have declared and discussed their learning support needs. Arrangements for students with declared disabilities will be made on an individual basis, in consultation with the University’s disability/dyslexia support service, and specialist support will be provided where needed.**

***If the module is part of a programme in a Partner College or Validated Institution, please complete the following:***

1. Partner College/Validated Institution: **N/A**
2. University School (for cognate programmes) or Faculty (for non-cognate programmes) responsible for the programme:

**SECTION 2: MODULE IS PART OF A PROGRAMME OF STUDY IN A UNIVERSITY SCHOOL**

**Statement by the School Director of Learning and Teaching/School Director of Graduate Studies (as appropriate):** "I confirm I have been consulted on the above module proposal and have given advice on the correct procedures and required content of module proposals"

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| --- | --- |
| BOApampa  Director of Learning and Teaching  Dr Buge Apampa  Print Name | Date |

**Statement by the Head of School:** "I confirm that the School has approved the introduction of the module and, where the module is proposed by School staff, will be responsible for its resourcing"

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| Head of School  Professor Iain Cumming  Print Name | Date October 2011 |