1. **Title of the module**

BI642 Cancer Biology

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

Biosciences

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

Level 6

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 Biomedical Science and related programmes

BSc Biochemistry and related programmes

BSc Biology and related programmes

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

8.1 An understanding of the regulation of gene expression, the molecular genetic changes that result in the development of cancer (inherited and/or acquired mutation, infection/inflammation), and an appreciation of how these changes result in uncontrolled cell division (deregulation of the cell cycle, and of the normal apoptotic mechanisms).

8.2 An understanding of the normal processes by which DNA damage is subject to repair; the limitations of this mechanism, and how this leads to cellular transformation at the molecular level.

8.3 Knowledge of possible roles of the immune system in inhibiting/promoting tumour development; and of the molecular mechanisms by which cutting edge targeted therapies are revolutionising the working practice of the oncology clinic.

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

9.1 Development of written communication skills at a standard appropriate for level 6 study

9.2 Acquisition of information from a wide range of information resources, including journals, books, electronic databases); maintenance of an effective information retrieval strategy

9.3 The ability to understand, analyse and critically assess published scientific data

1. **A synopsis of the curriculum**

**The Molecular Biology of Cancer**: Regulation of gene expression; Growth factor signalling and oncogenes; Growth inhibition and tumour suppressor genes; the Cell Cycle and apoptosis.

**Cancer stem cells and differentiation**; chemo-resistance and metastasis.

**DNA structure and stability**: mutations versus repair.

**Tumour immunology**; targeted cancer therapies and clinical trial design.

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

**Core text**

Pecorino, L.. Molecular Biology of Cancer: Mechanisms, Targets and Therapeutics (3rd edition) Oxford University Press. 2012. ISBN 978-0199577170

**Supplementary materials**

Selected articles from scientific journals will be provided from the Templeman Library electronic journal collections.

Weinberg, R.A. The Biology of Cancer. New York; Abingdon: Garland Science, 2007

Alberts, B., Essential Cell Biology. New York; London: Garland Science 2011.

1. **Learning and Teaching methods**

**Total contact = 30 hr**

Lectures (24 x 1h) 24 hr Outcomes 8.1- 8.3, 9.1-9.3

Feedback session – assessment 1 2 hr Outcomes 8.1- 8.3, 9.1-9.2

Feedback session – assessment 2 2 hr Outcomes 8.1-8.3, 9.1-9.3

Pre-examination revision lecture 2 hr Outcomes 8.1- 8.3, 9.1-9.2

**Self study = 120 hr**

Written assessment 1 (News & Views article) 20 hr Outcomes 8.1- 8.3, 9.1-9.3

Written assessment 2 (Research article evaluation) 20 hr Outcomes 8.1-8.3, 9.1-9.3

Background reading relating to lecture content 40 hr Outcomes 8.1-8.3, 9.1-9.2

Preparation for examination 40 hr Outcomes 8.1-8.3, 9.1-9.3

1. **Assessment methods.**

**End of module examination (60%)**

Two essay-type answers from a choice of four (testing outcomes 8.1-8.3, 9.1-9.3)

**Continuous assessment (40%)**

Assessment 1: News & Views article (20% of module mark) (testing outcomes 8.1-8.3, 9.1-9.3)

Assessment 2: Timed essay (20% of module mark) (testing outcomes 8.1-8.3, 9.1-9.3)

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 |  |  |  | 9.1 | 9.2 | 9.3 |  |  |  |
| **Learning/ teaching method** | **Hours allocated** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Lectures** | 24 | X | X | X |  |  |  | X | X | X |  |  |  |
| Feedback sessions | 4 | X | X | X |  |  |  | X | X | X |  |  |  |
| Revision lecture | 2 | X | X | X |  |  |  | X | X |  |  |  |  |
| Self study | 120 | X | X | X |  |  |  | X | X | X |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Examination |  | X | X | X |  |  |  | X | X | X |  |  |  |
| News & Views article |  | X | X | X |  |  |  | X | X | X |  |  |  |
| Timed essay |  | X | X | X |  |  |  | X | X | X |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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 student support service, and specialist support will be provided where needed.**
2. **Campus(es) or Centre(s) where module will be delivered:**

Canterbury

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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) |
| 25/10/16 | Minor | September 2015 | 11-14 | No |
|  |  |  |  |  |