

## Liverpool John Moores University

Title: MOLECULAR BASIS OF CANCER  
Status: Definitive  
Code: **6010BMBMOL** (101498)  
Version Start Date: 01-08-2011

Owning School/Faculty: Pharmacy & Biomolecular Sciences  
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
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Andrew Evans	
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Steven Crosby	
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**Academic Level:** FHEQ6      **Credit Value:** 12.00      **Total Delivered Hours:** 26.00

**Total Learning Hours:** 120      **Private Study:** 94

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	18.000
Online	1.000
Seminar	2.000
Tutorial	2.000

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Coursework: Critical review of research paper and in-class essay.	40.0	
Exam	AS2	Examination	60.0	3.00

### Aims

*To give the student up to date knowledge of the key molecular and cellular events during initiation and progression of cancer.*

*To give students an appreciation of the principle involved in the diagnosis and treatment of human cancer.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Demonstrate knowledge of the major steps in cancer development and progression in humans
- 2 Demonstrate knowledge of the known causes of cancer in man
- 3 Outline the molecular events involved in the transformation of normal cells to neoplastic
- 4 Outline the basis for the principal forms of therapy for cancer

## **Learning Outcomes of Assessments**

The assessment item list is assessed via the learning outcomes listed:

In-class essay	1	2	3	
EXAM	1	2	3	4

## **Outline Syllabus**

*Biological overview of cancer in humans. Epidemiology and carcinogenesis. Cancer inducing agents and risk factors. Major carcinogenic agents, e. g. chemical exposure, radiation, nutrition and diet. Effect of polymorphisms and metabolism.*

*Key features of specific types of cancer, including cervical, ovarian, gastrointestinal, bladder, leukaemia's and melanoma. Typical disease progression, benign and malignant disease, invasion and metastasis. General histopathological alterations, staging and grading of tumours.*

*The molecular biology of cell transformation and hallmarks of cancer; genetic changes in oncogenes, tumour suppressor genes, and role of cell cycle. Chromosomal alterations, and basics of DNA repair.*

*Therapy of cancer; classical and novel therapies. Adverse reactions to therapy. Diagnostic techniques of the future.*

## **Learning Activities**

Lectures, tutorials, seminars

## References

<b>Course Material</b>	Book
<b>Author</b>	Weinberg, R
<b>Publishing Year</b>	2006
<b>Title</b>	The Biology of Cancer
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Garland
<b>ISBN</b>	978-0815340768

<b>Course Material</b>	Book
<b>Author</b>	Morgan D
<b>Publishing Year</b>	2006
<b>Title</b>	The Cell Cycle
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Oxford University Press
<b>ISBN</b>	9780199206100

<b>Course Material</b>	Book
<b>Author</b>	King R
<b>Publishing Year</b>	2006
<b>Title</b>	Cancer Biology
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Prentice-Hall
<b>ISBN</b>	9780131294547

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