

## Module Specification

Module Title

Module Code

Credit Value  Level  Mode of Delivery

Pre-requisite modules	Co-requisite modules	Overlapping modules
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### 1) Content Description

Provide a description of the module, as it will appear in the Module Directory and on the Student Information System (approx. 70-80 words).

A brief history of cell biology. Techniques in light and electron microscopy. The organization of pro- and eukaryotic cells based on microscopic techniques. Membrane structure. The cell membrane and junctions between plant and animal cells. Endomembrane domains and dynamics; Golgi, ER and nuclear envelope. Plastids and mitochondria; structure and biogenesis. An introduction to the cytoskeleton; force generation by microtubules. Nuclear organization; chromatin, nucleolus and the cell cycle. Cell differentiation from Stem cells to examples of specialized cells. Cancer and apoptosis.

### 2) Module Aims

Specify the aims of the module, i.e. the broad educational purposes for offering this module.

To provide a basic understanding of the structure, organization and major functions of the different components of cells. To provide key information on key processes; cytoskeleton, force-generation, cell recognition and cell signalling, the cell cycle. To enable students to understand how images of cells are produced and how to interpret these. To teach students how to plan, execute and evaluate results of experiments in cell biology. To provide basic training in light microscopy.

### 3) Learning Outcomes

Identify the learning outcomes for this module, i.e. knowledge, skills and attributes to be developed through completion of this module. Outcomes should be referenced to the relevant [QAA benchmark statements](#) and the [Framework for Higher Education Qualifications in England, Wales and Northern Ireland \(2008\)](#). The [SEEC Credit Level Descriptors for Further and Higher Education 2003](#) and [Queen Mary Statement of Graduate Attributes](#) should also be used as a guiding framework for curriculum design.

Academic Content:	
A1	Identify major components of pro- and eukaryotic cells in micrographs.
A2	Recognize the kinds of specimen preparation used by cell biologists
A3	Understand key cellular phenomena including cytoskeleton, force-generation, cell recognition, cell signalling, chromosome separation, apoptosis and the cell cycle
A4	Plan and evaluate simple experiments in cell biology
A5	Understanding of scales and magnifications on drawings and micrographs

Disciplinary skills - able to:

B1	This module will enhance students' understanding of the organization and integrated functioning of cells
B2	They will also gain a fundamental understanding of how different experimental approaches are used to discover the functions of different components of cells
B3	They will begin to appreciate how dynamic processes are interpreted via static images

Attributes:

C1	The module will enhance students' general scientific understanding and knowledge of experimental techniques in cell biology
C2	The course work will give firsthand experience of how to handle living materials under the microscope and how to record visual information

#### 4) Reading List

Provide an indicative reading list for the module. This should include key texts and/or journals but **should not** be an exhaustive list of materials.

B Alberts et al. Molecular Biology of the Cell. 5<sup>th</sup> edition. Garland Science  
 W Becker et al. The World of the Cell. 8<sup>th</sup> edition. Pearson Education  
 Alberts et al., Essentials of Cell Biology. 2<sup>nd</sup> or 3<sup>rd</sup> edition. Garland Science.

#### 5) Teaching and Learning Profile

Provide details of the method of delivery (lectures, seminars, fieldwork, practical classes, etc.) used to enable the achievement of learning outcomes and an indicative number of hours for each activity to give an overall picture of the workload a student taking the module would be expected to undertake. This information will form the Key Information Set for each undergraduate programme and will be used to populate the KIS widget found on the QMUL programme information pages. More information can be found [online](#) about KIS. You may also wish to refer to the [QAA guidance on contact hours](#) when completing this section.

Activity Type	KIS Category	Time Spent (in hours)
Lecture	Scheduled	20
Practical Briefings	Scheduled	3
Laboratory	Scheduled	9
	Total	32

Specify the total module notional study hours. This should be a total of the hours given for each activity. The notional study hours for each academic credit point is 10. A 15 credit point module therefore represents 150 notional study hours.

Activity Type	Total Time Spent (in hours)	Percentage of Time Spent
Scheduled learning and teaching	32	21
Placement	0	0
Independent Study	118	79
Total	150	100

Use the information provided in the box above to specify the total time spent and the percentage time spent in each category of teaching and learning activity.

## 6) Assessment Profile

Provide details of the assessment methods used to assess the achievement of learning outcomes.

Description of Assessment	Assessment Type	KIS Category	Duration/Length	Percentage Weighting	Final element of assessment	Qualifying Mark
Examination	Exam	Coursework	1 Hours and 30 Minutes	75%	Yes	
Practical	Written Assessment	Coursework	3h	25%	Yes	

**Final element of assessment:** The assessment that takes place last. **There should normally be only one element of assessment marked as final unless two assessment or submission dates occur on the same day.**

**Qualifying mark:** A specified minimum mark that must be obtained in one or more elements of assessment in order to pass a module. **This is in addition to, and distinct from, the requirement to achieve a pass in the module mark to pass the module.**

### Reassessment

Provide details of the reassessment methods used, specifying whether reassessment is either standard reassessment or synoptic reassessment.

- Standard Reassessment       Synoptic Reassessment

Synoptic reassessment details (if you have indicated synoptic reassessment above, please give details)		
Brief Description of Assessment	Assessment Type	Duration/Length of Examination/ Coursework
Examination	Exam	1 Hours and 30 Minutes