

## Module Specification

Module Title  Module Code   
Credit Value  Level  Mode of Delivery  Semester A +B

Pre-requisite modules	Co-requisite modules	Overlapping modules
N/A	N/A	N/A

### 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).

This module will provide advanced training in techniques in biochemistry research. The programme involves: An extended laboratory practical (protein expression and purification) and research article writing; web-based research communication; a series of workshops on advanced techniques in structural biology; guest seminars and a chance to interview well-known researchers; workshops on research communication skills; and tutorials on career and personal development.

Assessment will be 100% coursework.

### 2) Module Aims

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

To equip students for a research career in biochemistry or a related discipline by teaching advanced methods used in modern biochemical studies. These techniques will range from those in molecular biology through to computational, structural and spectroscopic techniques.

### 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	Critical thinking.
A2	Selection of the appropriate methods to solve challenging problems in biochemistry.
A3	Interpretation of experimental and computational results.

Disciplinary skills - able to:

B1	Plan and design advanced experiments and evaluate and interpret results.
B2	Effectively communicate research to audiences (both broad and specialist) using a range of media.
B3	Use specialized research equipment (subject to training and health & safety procedures).

Attributes:	
C1	Produce analyses grounded in evidence.
C2	Design experiments to acquire new knowledge and extend understanding.
C3	Enhanced capacity to conduct and communicate research.

#### 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.

Web-based research communication: <http://biochemwiki.sbcs.qmul.ac.uk/doku.php?id=guidelines>

Advanced techniques in structural biology: Campbell, I.D. The march of structural biology. Nature Reviews Molecular Cell Biology 3, 377-381 (May 2002) | doi:10.1038/nrm800

#### 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)
Practical Classes and workshops	Scheduled	60
Seminar	Scheduled	25
External Visits	Scheduled	35
Guided independent study	Independent	180
Total		300

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	120	40
Placement	0	0
Independent Study	180	60
Total	300	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
Long report on Lab: Expression and purification of GFP	Report in the form of a research article.	Coursework	2,000 words	25	No	N/A
Computer Labs (Creation of keystone wiki article).	Report in the form of web-based article.	Coursework	3,000-4000 words	35	No	N/A
Structural biology methods	Written assignment	Coursework	3,000 words	25	No	N/A
Research Seminars	Interview and written report	Coursework	3,000 words	15	Yes	N/A

**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.

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
The student being reassessed will be required to write a critical review of the advanced biochemical/structural techniques addressed during the course of the module.	Written Assignment.	3000 words