

## Module Specification

Module Title  Module Code

Credit Value:  Level:  Mode of Delivery:  Semester:

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).

The module will introduce students to the process and philosophy of scientific disciplines, and crucially how this has changed over time. We will examine the impact of social media, big data and big business on the process of scientific research and communication with the public. We will use case studies to examine the interface between the discipline and the public perception. All students regardless of background will participate in one day of practical exercises.

### 2) Module Aims

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

- 1) Introduce all students to the process of science,
- 2) Give students skills to critically evaluate how information is being given to them – whether by media, scientific publications etc.
- 3) Familiarize students with the external factors which influence how science is conducted and communicated to the public
- 4) Provide students with practical skills in formulating an evidence based argument, debating an issue and succinct reporting using social media.
- 5) Provide the students with experience evaluating both scientific and popular reporting on scientific research

### 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	A knowledge of the scientific method and process and how this has changed over time
A2	An appreciation of how society, media and research are mutually influenced
A3	Skills in using social media, oral presentation, making an evidence based argument in written or oral form

Disciplinary skills - able to:	
B1	Critical thinking
B2	Evaluate perspectives from different disciplines
B3	International perspectives – in the communication of science and the appreciation of science

Attributes:	
C1	Acquire and critically evaluate knowledge
C2	Work individually and in groups
C3	Apply critical and appropriate arguments
C4	Apply general life skills in multi-cultural and multi-disciplinary entronement

QM Model Outcomes (available in QMPlus <a href="#">here</a> ):	
D1	(Multi/Inter-Disciplinary) Evaluate perspectives from different disciplines
D2	(Enterprising Perspectives) Demonstrate and evaluate how they have enhanced their own learning through engaging in enterprising skills and behaviours
D3	

#### 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.

What is this thing called science? by A.F. Chalmers

Guardian Blog

Quirks and Quarks podcast

Papers:

Lipton 2005 Testing Hypotheses: Prediction and Prejudice. *Science*. 307. 219-221.

Chamberlain 1965 The method of multiple working hypotheses. *Science*. 148. 754-759.

Platt 1964 Strong Inference. *Sciences* 146. 347-353.

Davis 2006 Strong Inference. *Perspectives in Biology and Medicine*. 4. :238–249.

Bohannon 2013. Who's afraid of peer review? *Science*. 342. 60-65.

Eagleman 2013. Why public dissemination of sciences matters. *The Journal of Neuroscience*. 33:12147–12149

Enserink 2012. As Open Access Explodes, How to Tell The Good From the Bad and the Ugly?. *Science*. 338. 1018.

Franko 2014. Publication bias in the social sciences: Unlocking the file drawer. *Science*. 354. 1502-1504.

Grieneisen 2012. A Comprehensive Survey of Retracted Articles from the Scholarly Literature. *PLoS ONE* 7(10): e44118. doi:10.1371/journal.pone.0044118

Hvistendahl 2013. China's Publication Bazaar. *Science*. 342. 1035-1039.

PLoS Medicine Editors 2009. Ghostwriting: The Dirty Little Secret of Medical Publishing That Just Got Bigger. *PLoS Med* 6(9): e1000156. doi:10.1371/journal.pmed.1000156

#### 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	16
Total		

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	16	16
Placement	0	0
Independent Study	84	84
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
Written assignment 1	Written assignment	Coursework		45%		
Written assignment 2	Written assignment	Coursework		45%		
Practical	Practical Skills assessment	Practical		10%		

**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
Essay	Coursework	