1. **Title of the module**

CMAT3010 (CMAT301) – The Science of Sound

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

Centre for Music and Audio Technology

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

Level 4

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 (Hons) Music Technology and Audio Production

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

8.1 Demonstrate an understanding of the basic principles of sound, including sound waves and acoustics and how these relate to audio;

8.2 Utilise and understand simple mathematical and graphical methods for analyzing and measuring sound;

8.3 Demonstrate an understanding of the physiology of human hearing and the perception of sound.

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

9.1 Generate, analyse and interpret appropriate data;

9.2 Demonstrate core skills such as problem solving and decoding information;

9.3 Use IT skills, computer technology and electronic information sources.

1. **A synopsis of the curriculum**

This module introduces students to important concepts that underpin sound and sound technologies, starting from an understanding of how sound is produced, how it travels and how we perceive it. The module also explores the principles by which sound can be recorded and encoded in both analogue and digital formats. Practical demonstrations and experiments are used to investigate scientific theories, providing students with a solid understanding of theory that will inform future practical work in the recording studio and with the digital audio workstation.

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

Everest, F. A., and Pohlmann, K. C. (2015). *Master Handbook of Acoustics*. New York: McGraw Hill.

Howard, D. M. and Angus, J. (2017). *Acoustics and Psychoacoustics*. London: Focal Press

Pohlmann, K. C. (2010). *Principles of Digital Audio*. New York: McGraw Hill.

Rossing, T. D. and Moore, R. F. (2013). *The Science of Sound*. London: Pearson.

1. **Learning and teaching methods**

Total Contact Hours: 22

Private Study Hours: 128

Total Study Hours: 150

1. **Assessment methods**
   1. Main assessment methods

* Experiment Portfolio and Write-up (1,000 words) – 60%
* Group Presentation and Write-Up (10 minutes/500 words) – 40%
  1. Reassessment methods
* Like-for-like

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** |  |  |  |  |  |  |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** |
| Lecture | **x** | **x** | **x** | **x** | **x** |  |
| Workshop | **x** | **x** | **x** | **x** | **x** | **x** |
| **Assessment method** |  |  |  |  |  |  |
| Experiment Portfolio & Write-up | **x** | **x** | **x** | **x** | **x** | **x** |
| Group Presentation | **x** | **x** | **x** | **x** | **x** | **x** |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/ declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Medway

1. **Internationalisation**

Students will be using techniques and equipment that are standard for this type of work internationally. Students will be presented with some contextual information in lectures regarding the development of these technologies, which primarily occurred in the UK, Europe and North America.

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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.**

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| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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| Revised FSO Jan 2018 |