

Module Information

2022.01, Approved

Summary Information

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| Module Code | 6204AMP |
| Formal Module Title | Audio Restoration and Digital Enhancement |
| Owning School | Engineering |
| Career | Undergraduate |
| Credits | 20 |
| Academic level | FHEQ Level 6 |
| Grading Schema | 40 |

Teaching Responsibility

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|-----------------------------------|
| LJMU Schools involved in Delivery |
| Engineering |

Learning Methods

| Learning Method Type | Hours |
|----------------------|-------|
| Lecture | 18 |
| Practical | 18 |
| Tutorial | 8 |

Module Offering(s)

| Display Name | Location | Start Month | Duration Number Duration Unit |
|--------------|----------|-------------|-------------------------------|
| JAN-CTY | CTY | January | 12 Weeks |

Aims and Outcomes

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|------|--|
| Aims | To enable students to apply modern digital techniques for the analysis reconstruction / transfer / identification and enhancement of a variety of audio signals and artefacts. |
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After completing the module the student should be able to:

Learning Outcomes

| Code | Number | Description |
|------|--------|--|
| MLO1 | 1 | Select appropriate tools to restore audio material from various legacy formats |
| MLO2 | 2 | Analyse and reconstruct an audio product to appropriate industry standards |
| MLO3 | 3 | Analyse and enhance a sound file to identify the obscured content |
| MLO4 | 4 | Apply knowledge and techniques to suggest/develop improvements for an engineered product |

Module Content

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|------------------------|---|
| Outline Syllabus | Audio recording and acoustic analysis in historical context Signal Analysis and Fourier Transform Digital Archiving of materials The audio chain and optimisation Identification of Format Capabilities and Limitations Format transfer techniques Comparisons of Modern and Historical Recording and Reproduction formats Application of Digital standards & formats, sample rates and quality Noise analysis and reduction systems Spectral analysis and acoustic enhancement Waveform analysis and reconstruction Application of acoustic analysis to enhance environment, reproduction and products Modern noise suppression techniques Audio restoration and reconstruction processes Assessment, management and reporting of audio analysis Analysis of live-captured and electronically-generated content Maintenance of levels to relevant technical acceptance standards Application of Audio restoration processes in Industry |
| Module Overview | |
| Additional Information | This module is designed to give students an opportunity to apply their audio skills to broader less traditional industry applications and as an introduction to the application of the disciplines taught throughout their degree to the new opportunities available in the fast growing industries of Audio Archiving, Audio Restoration and Bespoke Sound design for Industrial Applications. |

Assessments

| Assignment Category | Assessment Name | Weight | Exam/Test Length (hours) | Module Learning Outcome Mapping |
|---------------------|--------------------------------|--------|--------------------------|---------------------------------|
| Report | Report on methodologies | 30 | 0 | MLO4 |
| Portfolio | enhance & isolation techniques | 70 | 0 | MLO3, MLO2, MLO1 |

Module Contacts

Module Leader

| Contact Name | Applies to all offerings | Offerings |
|----------------|--------------------------|-----------|
| Colin Robinson | Yes | N/A |

Partner Module Team

| Contact Name | Applies to all offerings | Offerings |
|--------------|--------------------------|-----------|
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