**Modules Catalogue: DL835 – BSc (Honours) in Creative Media Technologies**

Erasmus students can study either year 2 or year 3 for a full academic year only.

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| **YEAR** | **MODULE CODE** | **MODULE TITLE** | **ECTS** | **SEMESTER** | **MODULE AIMS / LEARNING OUTCOMES** |
| 2 | CMT H2001 | **Audio Visual Practice** | 5 | Full Academic Year | The aim of the module is to enable students to gain experience in planning, implementing and demonstrating audio visual projects in a technical, creative or studio environment, on a team basis, within the context of industrial, professional and institutional working practices.  On successful completion of the module, students will be able to:   * Develop an audio visual project * Work in a team * Complete appropriate production, testing, measurement and verification procedures * Present projects via portfolio, seminars, demonstrations and written reports in an academic format. |
| 2 | CMT H2002 | **Electronics** | 10 | Full Academic Year | The aim of the module is to introduce the student to a range of electronic components and sub systems in audio and video circuits.  On successful completion of the module, students will be able to:   * Describe the operation and application of the basic electronic components and sub‐systems within audio and video circuits * Use standard discrete components and integrated circuits in constructing audio and video circuits * Calculate required circuit values to meet system requirements using theory or through circuit simulation * Perform circuit measurements in accordance with design specifications * Identify and diagnose faults on typical electronic systems through testing at a component and subsystem level. |
| 2 | CMT H2003 | **Networks** | 10 | Full Academic Year | The module introduces students to the principles of computer networks through practice, theory and research.  On successful completion of the module, students will be able to:   * List the elements of an Internet model based network * Write and modify a Client/Server application using socket programming * Transfer data across a computer network using various network protocols * Analyse how network protocols interact with each other * Choose appropriate hardware for a specific network application * Choose an appropriate network protocol for a specific application. |
| 2 | CMT H2004 | **Sound Recording** | 10 | Full Academic Year | The aim of the module is to enable students to learn the principles and practices of the elements of the music/sound recording process.  On successful completion of the module, students will be able to:   * Create a MIDI sequence using a digital audio workstation * Evaluate and critic music and sound * Manipulate, enhance, blend and master multiple audio sources into a single output, using various processing techniques * Manage the configuration and operation of a professional music studio, in the manner of a professional studio engineer. |
| 2 | CMT H2005 | **Audio Visual Production** | 10 | Full Academic Year | The aim of the module is to allow students to gain knowledge and skills in the audio visual production process.  On successful completion of the module, students will be able to:   * Apply the skills needed in the pre‐production, production and post‐production process * Create and produce images, audio and video material using digital video cameras and related software, equipment and hardware * Describe the functions and operations of video cameras and production equipment * Explain technical concepts of digital media. |
| 2 | CMT H2006 | **Advanced Mathematics for Audio Visual Applications** | 10 | Full Academic Year | This module aims to extend the students’ mathematical, computational and statistical skills to meet the needs of other programme modules, the workplace and the requirements for further studies.  On successful completion of the module, students will be able to:   * Apply statistical and probabilistic reasoning to audio visual engineering applications * Apply Fourier Analysis and use the Fourier Series Formula to describe signals mathematically * Differentiate and integrate a wide range of functions * Use spreadsheet, statistical and mathematical visualisation software * Explain the Digital Cosine Transform and its applications in digital video applications. |
| 2 |  | **Elective Module** | 5 | Semester 2 | The module is to provide the learner with an opportunity to study outside of their normal discipline and to encounter a range of themes, ideas, creative and critical approaches which are new to them. They work with students and staff from across the Faculty, so as well as encountering new areas of study this will also be an important opportunity for them to network with peers and lecturing staff. During this module they will gain a basic level of proficiency in a specified skill or practice.  O On successful completion of the module, students will be able to:   * Practice / refine the skill being learnt * Develop a brief and proposal for a project * Research the historical and cultural context for their skill * Maintain a reflective journal of work undertaken and knowledge / insight gained * Complete and present final project work |

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| 3 | CMT H3011 | **Work Practice / Project** | 15 | Full Academic Year | The aim of this module is to provide students with an opportunity to assimilate their knowledge and skills in creative media technologies and to apply that knowledge to develop an audio visual project  On successful completion of the module, students will be able to:   * Plan a project and produce a project timeline * Develop an audio visual systems project * Present a technical demonstration of the project * Complete a project report * Make a project presentation to a technical audience * Describe the relevant codes of practice and industrial standards. |
| 3 | CMT H3002 | **Electronics and Microcontrollers** | 10 | Full Academic Year | The module will introduce students to the technology, theory and applications of Electronics and Microcontrollers, as applied to Creative Media Technologies.  On successful completion of the module, students will be able to:   * Describe common electronic systems used in Audio Visual applications * Program typical microcontrollers and peripherals in a high level language * Develop electronic and microcontroller‐based solutions for creative applications such as animatronics, arts installations, and other audio visual domains. |
| 3 | CMT H3003 | **Design and Prototyping (2D/3D)** | 5 | Full Academic Year | The module will introduce students to digital fabrication technology and design methodologies.  On successful completion of the module, students will be able to:   * Utilise digital fabrication tools * Apply design principles and methodologies to hardware development * Analyse scenario requirements * Construct hardware prototypes. |
| 3 | CMT H3004 | **Software Design** | 10 | Full Academic Year | The module will enable students to acquire significant software design skills in a high-level programming environment.  On successful completion of the module, students will be able to:   * Design structured code in a high level language * Utilise object oriented paradigms in systems design * Develop appropriate user interfaces * Integrate software and hardware design elements. |
| 3 | CMT H3005 | **Studio Technology and Practice** | 10 | Full Academic Year | The module will introduce students to the technology, theory and practice of radio and television studio technology.  On successful completion of the module, students will be able to:   * Describe the technology and processes involved in studio technology, from acquisition to delivery * Use the principal systems used in studio technology * Practice the main functions of a studio‐based workflow * Explain the role of technology in a team‐based creative studio context |
| 3 | CMT H3006 | **Research and Innovation** | 5 | Full Academic Year | The module will enable students to develop skills in innovative thinking and planning, research methods, academic writing as well as experimental design and analysis.  On successful completion of the module, students will be able to:   * Identify, through bibliographic search and critical analysis, suitable research materials * Write research and technical reports in an academic style and referencing system * Apply project planning, research design and testing methods * Analyse data from both qualitative and quantitative research * Apply statistical analysis and interpretation on data using different research designs. |