

LM345 - MA/MSc in Interactive Media

The M.Sc./M.A. in Interactive Media is a 12-months intensive course that is designed specifically for graduates who are interested in pursuing studies that combine technological competence with design/artistic endeavour. It offers unique opportunities for designers, computer scientists and artists to exploit their potential in new areas (experience, interaction and participatory design, internet of things, social media and virtual reality, mobile and physical computing), across a wide range of activities, such as digital multimedia, software development, interactive installation, human-centred research and education. The unique features of this development include:

- A new type of multidisciplinary graduate who combines technological competence with human-centered design and artistic/creative endeavour;
- The effect of this course will enhance a student's education and employment prospects. This course will enable students to capitalise on their existing education and to extend their competencies;
- The increase in awareness of the opportunities offered by computer technology in a range of industries and services in new and traditional media (from audio/video recording/editing to web development, from broadcasting to social media, from product, event and service design asking for more interactivity to mobile computing).

The course is limited to twenty students per year with the option of either an MA or MSc degree. Students will have exclusive access to an Interaction Design Studio and to a prototyping Lab. At the end of the year, students will exhibit their final project at the Digital Art Week Now exhibition (see www.dawn.ul.ie). For more detailed information please visit <http://imedia.csis.ul.ie>

Contact Course Director:
Dr Cristiano Storni

Tel 353 (0) 61 202632

Email: cristiano.storni@ul.ie



Department of Computer Science and Information Systems

University of Limerick
Limerick
Ireland
www.csis.ul.ie

MA/MSc in Interactive Media

Autumn

Module	Description
Foundations of Interactive Media Design	<p>The module Foundations of Interactive Media Design covers essential concepts, techniques, frameworks and case studies to provide students with a good grounding in the disciplines of human-centered computing and Interaction Design: the design of interactive systems to suit people's needs, activities and preferences. The module begins with an overview of important developments in interactive technology design, pointing out how the notion of "interaction" has evolved and finally led to the professional practice of interaction design. Following this, a number of interaction design lifecycles are discussed and one in particular, the User-Centred Design Process, is examined step by step: from how to study users and their environment, to how to generate design ideas, create mock-ups and evaluate design alternatives. Examples of useful methodologies that can be employed at each stage of design are described and exemplified through practical case studies. The final part of the module covers current developments in Interaction Design, whereby current examples of interactive systems designs are showcased and discussed in class. The module is highly interactive, including not only lectures but also the screenings of videos, discussion of readings, guest presentations and a practical project where small groups of students evaluate and critique a piece of existing interactive technology and produce a re-designed version of it to be evaluated with real-world users. Extensive use is also made of the lecturer's hands-on experience in interaction design and of the Interaction Design Centre's tradition of research. The students are also invited to the Interaction Design talk series where they can hear researchers and practitioners present their current work.</p>
Interactive Media Project/Workshop 1	<p>This module is about the practical methods and tools for working with Interactive Media. Students learn about photography, graphics (Adobe Photoshop), sound production (Aduacity, Logic) , video production (Adobe Premiere), web design (Adobe Dreamweaver) and also initial preparation for a dissertation project prototype. For</p>

	assessment, students put up content they have created on individual web sites.
Electives (Choose 1)	
Digital Media Software and Systems 2	<p>Rationale and Purpose of the Module: To develop knowledge and competence of digital media systems:</p> <ol style="list-style-type: none"> 1. A survey of sound synthesis techniques from early electronic music to contemporary signal processing 2. Creation of synthesis techniques in industry-standard software 3. Examination of additive synthesis, modulation synthesis and contemporary techniques 4. Basics of frequency-domain processing 5. Real-time computer methods for sound design and processing 6. Aesthetics and development of sound design and processing <p>On successful completion of this module, students should be able to:</p> <ol style="list-style-type: none"> 1. Identify basic classical synthesis techniques 2. Construct synthesis methods in industry-standard software applications 3. Manipulate software to perform musical applications 4. Utilise good software writing practices 5. Evaluate synthesis results 6. Combine synthesis methods for complex sound interactions 7. Demonstrate proficiency with software tools. <p>How the Module will be Taught and what will be the Learning Experiences of the Students: The module is taught through hands-on projects. The projects are self-managed, collaborative, requiring skills taught through the module. Students are then required to articulate their project aims and solutions.</p>
Information Society	<p>CS4020 This module offers a socio-economic, political and cultural exploration of the "internet society". The module will provide a series of perspectives on the network society. In particular, the module provides an overview of the main approaches of technological determinism and social constructivism, and introduces to a third option with the contribution of Actor Network theory. In the module a series of case study of different socio-technical systems will be also discussed. This module will help students understand some of the current debates in the media about the effects of ICT on society.</p>

	The module will help the student to develop critical thinking around key issues of the Information Society.
Realtime Audio & Video	This module explores the real-time systems of connectivity, media generation and composition and how the capacity to work and respond in the present impacts across disciplines and fields. It explores sound and image synthesis and composition through real-time generative procedures that include sound synthesis, live sound and image processing, and composition principles for live performance. These techniques are realised in the most recent, commonly-used software
Physical Computing	Students develop their knowledge of physical computing in the context of interactive art, performance and interaction design through a combination of laboratory based small group project work and lecture based learning and research.

MA/MSc in Interactive Media

Spring

Module	Description
Principles of Interactive Media Design	<p>The Principles of Interactive Media Design module is providing the students with an opportunity to deepen their knowledge and improve their skills, building on the foundation of the Interaction Design module taught in the first semester. The module contains two parallel strands, followed by a final period dedicated to the development of final projects and theses. The first strand is dedicated to discussing selected themes related to concepts, techniques and application domains of Interaction Design. Based on the students' areas of interests, weekly seminars are organised for debating issues selected and presented by the students working in groups. Every week, a group of students takes responsibility for selecting the reference material and the case studies for their chosen topic, under the supervision of the module leader. They then have the obligation of sending the selected materials to the whole class one week in advance, preparing a presentation and a class activity and facilitating the debate during the seminar. The second strand is dedicated to the study of research methods, combining theory with practical assignments and giving the students the chance to reflect upon the research methods and techniques to be used in their final project work. The last 3 weeks of the semester are dedicated to the development of the final project ideas, with assistance from the module leader. The students are required to undertake a literature review for the selected topic and domain, give a presentation in class and write a report that includes the first two chapters of their thesis in draft form, together with a detailed work plan for the summer semester. Students are also invited to write a blog/journal reflecting on the different phases of the unfolding design process. The majority of class activities are inspired by the students' topics of interest and are based on collaborative sharing and learning.</p>
Interactive Media Project/Workshop 2	<p>This module is about the practical methods and tools for working with Interactive Media. Students learn about design and programming in environments such as Adobe UX, Pure Data, Arduino, Processing, Sketchup, OpenSCAD, Cura as well as being introduced to open</p>

	<p>source hardware. Finally, throughout the semester students are encouraged to drive their work towards their dissertation projects. For assessment, students put up content they have created on individual web sites.</p>
<p>Electives (choose 2)</p>	
<p>Mobile Application Design</p>	<p>This module focuses on the design of mobile applications. It focuses on the challenges associated with designing applications for mobile devices and teaches the student to overcome these challenges, taking into consideration each design dimension and relevant standards. The student will create visual assets for mobile applications using a variety of software products. The student will create mobile applications that manipulate a variety of digital media formats, make use of databases, read and respond to sensors and communicate with web via API.</p>
<p>Product Design & Modelling</p>	<p>3D parametric modelling systems are an integral part of the product design process. They are typically used to control key aspects of a product such as its design, communication, management, presentation, documentation and validation. The aim of this module is to introduce students to these six key product design areas using SolidWorks in the context of generic best practice modelling strategies. In addition students will:</p> <ul style="list-style-type: none"> Understand the primary issues and considerations involved in designing a new product and develop a creative approach to the solution of design problems. Understand the concepts and practices associated with 3D parametric modelling and visualisation technology. Model and develop products and components in contemporary computer modelling software. Be able to create comprehensive product models and specifications in the context of the total development of a product. Develop cognitive modelling/visualisation, problem-solving and decision-making skills.
<p>Visual Coding</p>	<p>To introduce students to the principles behind algorithmic visuals and the practice of creating visuals through programmed, procedural approaches.</p>
<p>Applied Interaction Design</p>	<p>This module focuses on participatory, collaborative, and adversarial approaches to design. It focuses on tool, techniques and methods to engage potential end-users and stakeholders in the design of new technology. This module will provide the student with knowledge of and practical experience in participatory/collaborative design supporting participatory innovation in the design of human-centered systems. Participatory Design methods such as design probes and design games will be</p>

	discussed. The module is project based and student will have to run participatory design sessions and develop individual design concepts or scenarios.
CS-Studio I	Students build a game, interactive media project or software project either individually or as a part of a team throughout the course of a semester. Students define a personal or team vision and work to standard industry milestones to complete their project.

MA/MSc in Interactive Media

Summer

Module	Description
--------	-------------

Interactive Media Project

(see project sample at www.dawn.ul.ie and <http://imedia.csis.ul.ie>)