Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

School of Computer Science and Statistics

MSc in Interactive Digital Media 2024-2025

Contents

Overview

This document describes regulations that apply to MSc Interactive Digital Media students registered to the School of Computer Science and Statistics during the academic year 2024-2025.

Alternative formats for the handbook can be made on request. Please get in touch with the Course Administrator to arrange this.

In the event of any conflict or inconsistency between the General Regulations published in the University Calendar and information contained in the course or local handbooks, the provisions of the General Regulations in the Calendar will prevail.

Disclaimers

The information in this document is intended to guide those seeking admission to the program and the students on the course. Trinity College Dublin reserves the right to update or change syllabi, timetables, or other aspects of the program at any time. Current students will be notified of changes by email.

SCSS Contacts

Orientation for incoming students is held in September.

Documents, forms, and other ongoing announcements associated with IDM student activities are located on the School Website: https://www.tcd.ie/scss/courses/postgraduate/interactive-digital-media/

Course Director: Prof. Gareth W. Young (Gareth.Young@tcd.ie)

All general Queries: teaching-unit@rt.scss.tcd.ie

Executive Officer: Mr. Jack Ferguson (Fergusja@tcd.ie)

Administrative Officer (Teaching Unit): Ms Lynn Daly (Lynn.Daly@tcd.ie)

Director of Postgraduate Teaching and Learning: Prof. Gavin Doherty (Gavin.Doherty@tcd.ie)

Postgraduate Advisory Service: (pgsupp@tcd.ie)

https://www.tcd.ie/seniortutor/students/postgraduate/

Junior Dean and Registrar of Chambers: (Junior.Dean@tcd.ie)

http://www.tcd.ie/Junior_Dean/index.php

General Information

The Postgraduate Advisory Service

What?

The Postgraduate Advisory Service (PAS) is a free and confidential service available to all registered postgraduate students at Trinity College Dublin. PAS offers comprehensive academic, pastoral, and professional support, including one-to-one appointments, workshops and training, and emergency financial assistance.

Why?

PAS ensures that all postgraduate students have a dedicated, specialist service independent of the school system to whom they can turn for support and advice during their time at Trinity. Common concerns students present to PAS include stress, financial worries, queries about regulations or services available at Trinity, supervisor-relationship concerns, academic progression issues, and academic appeals.

Who?

The Postgraduate Advisory Service is led by the Postgraduate Student Support Officers, who provide frontline support for all Postgraduate students in Trinity. These Support Officers will act as your first point of contact and a source of support and guidance; they can also put you in touch with or recommend other services, depending on your needs.

 How?

For an appointment, please email postgrad.support@tcd.ie

Website: https://www.tcd.ie/Senior_Tutor/postgraduateadvisory

To keep up to date with the supports and events for postgraduates, please check out the regular PAS newsletter sent to all postgraduates via email or follow PAS on Instagram @TCDPGAdvisory

English for Academic Purposes

The School of Linguistic, Speech, and Communication Studies runs classes in the English language for non-native speakers. Classes start in September and January.

http://www.tcd.ie/slscs/english/

Student Societies and Sports Clubs

Trinity College has a rich collection of student societies, ranging from the International Student Society to Chess, Dance, Math, Film, Food and Drink, Hiking, Jazz, Juggling, Photography, Theatre, Politics, Visual Arts, and many others. Joining student societies is a

great way to meet other students and develop new friendships. For more information, please go to:

https://trinitysocieties.ie/

The College also has a range of sports clubs open to all students. For a list of sports clubs and information about joining, please go to:

https://www.tcd.ie/Sport/student-sport/ducac/?nodeId=94&title=Sports_Clubs

The Trinity College Dublin Students Union (TCDSU)

TCDSU represents every student in Trinity College Dublin. Led by an elected president, it has officers covering education, welfare, communications, and entertainment. They provide a variety of support and represent student interests. Every Trinity student is automatically a member. See https://www.tcdsu.org/ for more details.

Introduction to the MSc. Interactive Digital Media

This course has been running since 1996 and has over 400 graduates working in digital media and related sectors nationally and internationally. It is delivered **full-time** over one year and carries a total ECTS weighting of 90. Platforms for digital media applications are constantly evolving - moving from desktops to mobile devices. The skills required for designing digital media applications have expanded, including technical and creative skills. Courses targeted at graduates entering the information technology industry must offer multidisciplinary courses. This MSc course teaches the programming languages and applications used in digital media and also includes modules on interactive design, game design, narrative, and usability design. This one-year M.Sc. in Interactive Digital Media aims to provide a foundation that will allow graduates to build on knowledge gained at the undergraduate level to enable them to work in the digital media sector. The course will help students combine their existing skills with the technological expertise to design and develop digital media applications.

Careers

The digital media sector is vibrant and growing in Ireland. It is now established internationally, and the expectation is that Irish companies will become major players in the market by working in partnership with overseas companies. Over the last two years, the digital media sector has experienced growth despite the recession. It is one of the few sectors that have escaped the various downturns, and there are currently many opportunities for experienced interactive designers and web programmers.

Since the establishment of the MSc in Multimedia Systems course in 1996, over 650 students have graduated with a postgraduate qualification in digital media and have found careers in different areas:

- Education
- Software development
- Games Industry
- Start-up companies
- Video editing and postproduction

- Consultancy
- Online publishing
- Television and broadcasting
- Digital media
- Research

Graduates from this course will have a broad background in the technologies and processes involved in creating and publishing digital media applications. Given the range of topics covered in the course, students can choose the area they are most interested in to work in in digital media after graduating.

Goals of the Course

Students receive a foundation in the theory and practice of creating and developing applications using all digital media types. While we welcome applicants with technical qualifications, the course is also appropriate for graduates without a computer science background because of the critical skills they can bring to digital media. The M.Sc. course concentrates on teaching the theory of developing and implementing digital media applications rather than teaching how to use off-the-shelf applications. Students are exposed to programming languages, platforms, and methodologies for creating, capturing, and presenting text, graphics, audio, and moving images. The students' backgrounds and skills facilitate exchange between different disciplines each year.

College Regulations

Regulations for MSc degrees are in the College Calendar. The College Calendar is available online (http://www.tcd.ie/calendar/). The Calendar provides College-wide rules and regulations for research degrees. In addition, this current course handbook provides our local regulations for IDM. In general, the Calendar is the most authoritative source of regulations, and it deals with issues such as:

- Admission requirements
- Probation
- Subject of research
- Role of Director of Teaching and Learning (Postgraduate)
- Progress and continuing registration
- Role of Supervisors
- Attendance
- Part-time registration
- Extensions and off-books
- Transfer to the Ph.D. register
- Procedure for examination of a candidate
- Complaints concerning supervision
- Appeal against the decision of examiners
- Plagiarism

Assessment and Progression

Marking Taught Modules – Weighting Between Streams

Some taught modules (e.g., CS7027) contain multiple streams (e.g., Game Studies and Design; Interactive Narrative). The Examiners calculate the marks of each constituent stream to produce a single mark for each module for each student.

In this calculation, the streams are weighted according to the number of contact hours. For example, if Interactive Narrative has 11 contact hours out of 61 on CS7027, the mark for Interactive Narrative will be weighted 11/61 ≈ 18% while calculating the total mark for CS7027. Similarly, Legal Issues in Digital Publishing is 6 hours out of 61, so its weight is 6/61 ≈ 9.8%.

Note that each stream may have multiple coursework components that are marked individually. The lecturer will combine these components for that stream to produce a single stream mark. Please refer to the Lecturer for the weighting of different pieces of coursework within a single stream.

Each student must submit a minor dissertation of 12,000 words by mid-May. Following this is the final project, which is a collaboration between groups of students. Projects from past years can be viewed on the course website at: https://www.tcd.ie/scss/courses/postgraduate/interactive-digital-media/.

To be allowed to proceed to the Research Project (30 ECTS) leading to the degree of M.Sc. in Interactive Digital Media, candidates must (i) achieve an overall mark of at least 50% in the credit-weighted average mark for all taught modules and (ii) for modules amounting to not less than 50 credits, to include the Research Paper, achieve a mark of at least 50% in each module and for modules amounting to not more than ten credits achieve a mark of not less than 40% in each module.

Students who fail one or more modules or the Research Paper may, at the discretion of the Court of Examiners, re-attempt through submission of supplementary assessment(s) by an appointed date or by sitting supplementary examination(s). The maximum mark awarded for the supplementary evaluation or examinations is 50%. To complete their Research Project satisfactorily, students must submit their Research Project by the prescribed date and must obtain a passing mark of 50% in their Research Project. The research project is assessed to comply with research dissertation regulations. The final mark for the program is based on a credit-weighted average of the mark awarded in each module, including the Research Project.

To qualify for the award of M.Sc. with Distinction, students must, as a minimum, achieve a mark of 70% or above in the Research Project and achieve at least 68% in the unrounded overall average mark for the taught modules and, for modules amounting to not less than half of the required credits for the taught component of the program, achieve a minimum

mark of 70% in each module. A Distinction cannot be awarded if a candidate has failed any credit during the program.

Students who pass the required modules and the Research Paper but are not permitted to or otherwise do not submit a Research Project or who do not satisfactorily complete their Research Project will be eligible for a Postgraduate Diploma in Computer Science award. The Postgraduate Diploma with Distinction is awarded to students who achieve at least 68% in the unrounded overall average mark for the taught modules and achieve a minimum mark of 70% in individual modules, which together amount to at least half of the required credits for the award of the Postgraduate Diploma associated with the student's registered program.

Court of Examiners

The Court of Examiners holds two meetings each year. Usually, the first meeting takes place at the beginning of June to assess the modules and research papers taught, and the second meeting is at the end of August to examine the final project leading to an MSc.

Results from the Court of Examiners are usually available from the Student Portal 2-3 days after the August meeting.

The Court of Examiners is comprised of the Lecturers on the course, the Director of Postgraduate Teaching and Learning of the School of Computer Science and Statistics, the External Examiner, and any Adjunct Lecturers or Research Paper supervisors who are not full-time Lecturers assigned to the course.

Individual Work and Plagiarism

It is essential to highlight that all work submitted must be your own and not taken directly from the internet or other sources. The College takes plagiarism seriously. The College regulations governing plagiarism are available in the college calendar and are copied in Appendix 1. You are expected to be familiar with these rules and understand plagiarism.

Before beginning your first assignment, you must complete the mandatory online tutorial on academic integrity, including avoiding plagiarism - 'Ready, Steady, Write,' located at

https://libguides.tcd.ie/academic-integrity/ready-steady-write

You are also encouraged to use the College Library's repository of resources on academic integrity and avoidance of academic misconduct (including plagiarism) at

https://libguides.tcd.ie/academic-integrity/

In the case of group work, groups should establish some mechanism to ensure that no member engages in plagiarism. Do not sign the Group Assignment Declaration if you have not assured yourself that the whole assignment is original.

The College Calendar entries regarding plagiarism may be found in the following sections.

- Calendar, Part II, General Regulations and Information, Section II, Item 82
- Calendar, Part III, General Regulations & Information, Section 1.32

Appeals

Appeals of decisions may be taken to the SCSS postgraduate appeals committee, composed of a subset of the Postgraduate Teaching and Learning Committee. Appeals of School--level choices may be taken to the Dean of Graduate Studies. Appeals of the School Research Ethics Committee may be taken to the College ethics review body. The appeal committee may decline to hear the appeal at any level of appeal. College regulations on appeals of postgraduate matters are outlined in the College Calendar Part II.

Attendance

Students are expected to attend all lectures and group work meetings.

Marking Scale

The program uses the Institutional Marking Scale described in Calendar, Part II, General Regulations & Information, Section II, Item 30:

http://www.tcd.ie/calendar/undergraduate-studies/general-regulations-and-information.pdf

The marking scale is as follows:

Mark	Percentage (%)	Equivalent
I	70-100	A+ and A
II.1	60-69	A- and B+
II.2	50-59	B and B-
III	40-49	Etc.
F1	30-39	
F2	0-29	
Note: 1. The marking scale used in North America, mainland Europe, and many parts of Asia differs. 2. The minimum pass mark for Masters level courses in Trinity College is 50%.		

Legislation and College Policies

TCD requires that you read the College Policies and recent legislative acts. In particular, the College Health and Safety Policy, the IT and Network Policy, and the IT security policy. Please read the following legislation and College policies at the appropriate links below.

Legislation

The main points arising from the Acts are summarized below. You will find more information at the websites indicated.

Copyright and Related Rights Act 2000 (http://www.irishstatutebook.ie/) No. 28 of 2000

Freedom of Information Acts 1997 and 2003

(http://www.irishstatutebook.ie/) No. 13 of 1997

Data Protection Acts 1988 and 2003

(http://www.irishstatutebook.ie/) No. 25 of 1988

The Child Trafficking and Pornography Act 1998

(http://www.irishstatutebook.ie/) No. 22 of 1998

College Policies

A summary of the policies is outlined below, and the full text may be viewed on the websites indicated.

Harassment, including Sexual Harassment and Racial Harassment: (https://www.tcd.ie/hr/)

Web resources: (https://www.tcd.ie/digital/)

Use of the College's trademarks: (https://www.tcd.ie/media/tcd/about/policies/pdfs/Trademarks.pdf)

Fraud: (https://www.tcd.ie/about/policies/university-policies/fraud/)

Health and safety: (https://www.tcd.ie/stem/faculty-health-safety.php)

Absence from Examinations

Please see the College Calendar, Part II, General Regulations and Information, Section II, Item 35: http://www.tcd.ie/calendar/undergraduate-studies/general-regulations-and-information.pdf

Taught Modules

The modules being run this year are shown in Table 1. Each student takes CS7025, CS7026, CS7027, CS7028, CS7029, CS7044, and CS7043.

Module Code	Module Name	Module Coordinator	ECTS	Assessment	Semester
CS7025	Programming for Digital Media	Joris Vreeke	10	Continuous Assessment	1 & 2
CS7026	Authoring for Digital Media	Nina Bresnihan	10	Continuous Assessment	1 & 2
CS7027	Contextual Media	Sam Davern, Radek Przedpelski, & Alex Towers	10	Continuous Assessment	1 & 2
CS7028	Audio, Video and Sensor Technologies	Néill O'Dwyer & Andrew Holohan	10	Continuous Assessment	1 & 2
CS7029	Visual Computing and Design	Eamonn Hall & John Dingliana	10	Continuous Assessment	1 & 2
CS7044	Research Paper	Carol O'Sullivan	10	12,000-word paper	1 & 2
CS7043	Final Project	Gareth W. Young	30	Examined by specialist supervisors	3

Feedback and Evaluation

The course is evaluated with feedback forms distributed to the students. Each taught component is assessed separately for workload, difficulty, relevance, and quality of lectures and assignments. Feedback is anonymous.

CS7025: Programming for Digital Media

Module Code	CS7025
Module Name	Programming for Digital Media
ECTS Weighting[1]	10 ECTS
Semester taught	Semester 1 & 2
Module Coordinator/s	Joris Vreeke
Module Learning Outcomes	On successful completion of this module, students will be able to: LO1. Understand different software and hardware platforms LO2. Be familiar with basic programming techniques LO3. Understand JavaScript LO4. Know the network model for the Internet LO5. Understand client/server programming
Module Content	Students with no programming background will be given the knowledge and confidence to tackle small-scale programming projects using JavaScript. The emphasis on browser-based programming examples means that students will be familiar with many typical techniques for producing interactive effects in web-based applications. Students will also be aware that the core programming techniques can be applied to other programming languages and are, therefore, prepared for technologies introduced in later courses in the degree program. **Semester 1** • Programming concepts • Variables and data storage • Statements and flow of control • Functions and modularity • Input and Output **Semester 2** • The design and structure of networking. • Technology for Client/Server programming in a networked environment. • Introduction to server-side scripting. • Introduction to database technology. • Software design issues in network applications. • Development for mobile platforms
Teaching and Learning Methods	Lectures, laboratories, tutorials, online, field trips, practice-based, etc.

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[1] TEP Glossary

Assessment Details[2]	Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
	e.g., Examination	e.g., 2 hour written examination	e.g. LO1, LO2, LO3, LO4, LO5	80%	n/a	n/a
	e.g., Essay	Mid-Term Assignment	e.g. LO5, LO6	20%	6	8

Reassessment Details	N/A

Contact Hours and Indicative Student Workload	Contact Hours (scheduled hours per student over full module), broken down by:	66 hours
	Lectures (Semester 1: 22 hours, Semester 2: 11 hours)	33 hours
	Labs (Semester 1: 11 hours, Semester 2: 22 hours)	33 hours
	Independent study (outside scheduled contact hours), broken down by:	**20 hours**
	Completion of assignments	20 hours
	Total Hours	**86 hours**

Recommended Reading List	David Flanagan: JavaScript: The Definitive Guide Doug Crockford: JavaScript: The Good Parts Paul Vickers: How to think like a programmer Comer, Douglas: Computer Networks and Internets, 5th Edition, Prentice Hall, 2010. Tanenbaum, Andrew S., and David J. Wetherall: Computer Networks, 5th Edition, Prentice Hall, 2010.

Module Pre-requisites	**Prerequisite modules:** None **Other/alternative non-module prerequisites:** N/A

Module Co-requisites	N/A

Module Website	http://mymodule.tcd.ie/

Last Update	5/9/2023 by GWY

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[2] TEP Guidelines on Workload and Assessment

CS7026: Authoring for Digital Media

Module Code	CS7026
Module Name	Authoring for Digital Media
ECTS Weighting[3]	10 ECTS
Semester taught	Semester 1 & 2
Module Coordinator/s	Nina Bresnihan
Module Learning Outcomes	On successful completion of this module, students will be able to: LO6. Design and build valid, accessible websites for delivery on all digital platforms LO7. Have a thorough understanding of HTML5 and CSS3 LO8. Have a good understanding of Web Accessibility issues LO9. Build websites using HTML5 and CSS3 for delivery across multiple devices LO10. Understand how to design an information architecture for designing websites
Module Content	This module teaches the basic skills required for designing and implementing websites. It will introduce the standard mark-up languages used on www along with CSS. In the First Semester, students will learn how to develop basic websites using HTML5 and CSS3. In the Second Semester, more advanced web authoring skills will be taught, and strategies for designing and implementing interactive applications for delivery on all digital platforms, including mobile phones and tablets and desktops. Students will learn the fundamentals of developing Information Architectures and designing intuitive navigation systems. **Semester 1** • Introduction to Markup Languages • HTML5 • CSS3 • Web Standards and Accessibility **Semester 2** • Comprises a combination of short lectures, discussions, and tutorials. • The lectures will cover designing for different browsers and devices, integrating audio and video, integrating social media, and implementing on CMS platforms. • They will also introduce a design methodology, which will be adopted (or adapted) by groups during the project implementation phase of the semester. • A project is set for completion during the semester. (Exact dates are contingent on the Academic Calendar.) This will be a group project (group membership: minimum 3, maximum 5). The remainder of the semester will comprise tutorial meetings with each group, with required deliverables each week.

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[3] TEP Glossary

Teaching and Learning Methods	Lectures, laboratories, tutorials, online, field trips, practice-based, etc.

Assessment Details[4]

Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
e.g. Examination	e.g. 2 hour written examination	e.g. LO1, LO2, LO3, LO4, LO5	80%	n/a	n/a
e.g. Essay	Mid-Term Assignment	e.g. LO5, LO6	20%	6	8

Reassessment Details	N/A

Contact Hours and Indicative Student Workload

Contact Hours (scheduled hours per student over full module), broken down by:	44 hours
lecture	22 hours
laboratory	11 hours
tutorial or seminar	11 hours
other	0 hours
Independent study (outside scheduled contact hours), broken down by:	72 hours
preparation for classes and review of material (including preparation for examination, if applicable)	36 hours
completion of assessments (including examination, if applicable)	36 hours
Total Hours	**116 hours**

Recommended Reading List

Defensive Design for the Web, Matthew Linderman and Jason Fried (Author) Publisher: 37 signals

A Practical Guide to Designing with Data, Brian Suda and Owen Gregory

CSS Mastery: Advanced Web Standards Solutions by Andy Budd, Simon Collison and Cameron Moll

Designing with Web Standards (3rd Edition) by Jeffrey Zeldman and Ethan Marcotte

jQuery in Action, Second Edition by Bear Bibeault and Yehuda Katz

Responsive Web Design, Ethan Marcotte, A Book Apart

Information Architecture for the World Wide Web: Designing Large-Scale Web Sites, Peter Morville and Louis Rosenfeld

Handcrafted CSS: More Bulletproof Web Design, Dan Cederholm and Ethan Marcotte

Module Pre-requisites

Prerequisite modules: None

Other/alternative non-module prerequisites: N/A

Module Co-requisites	N/A
Module Website	https://scss.tcd.ie/postgraduate/interactive-digital-media/
Last Update	5/9/2023 by GWY

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[4] TEP Guidelines on Workload and Assessment

CS7027: Contextual Media

Module Code	CS7027
Module Name	Contextual Media
ECTS Weighting[5]	10 ECTS
Semester taught	Semester 1 & 2
Module Coordinator/s	Mads Haahr, Sam Davern, Radek Przedpelski, Alex Towers
Module Learning Outcomes	On successful completion of this module, students will be able to: LO11. Identify different approaches to interactive narrative in different types of interactive media and select a suitable approach for a given purpose LO12. Identify fundamental branching structures and patterns and understand their respective characteristics LO13. Understand the fundamentals of game-related storytelling techniques, such as emergent narrative and environmental storytelling LO14. Understand how interactivity affects narrative design and communication LO15. Analyse interactive narratives and assess trends over time LO16. Create interactive narratives for a range of digital media LO17. Analyse games as texts in a structured and methodical manner in terms of story, aesthetics, gameplay, and technology LO18. Understand games from a historical and cultural perspective LO19. Understand how platform considerations (e.g., controllers, hardware, and social context) affect genre and gameplay LO20. Design games using user-centric game design methodology and produce industry-standard game design documents LO21. Essay writing and discursive skills LO22. Critical skills concerning technology, culture, and society LO23. A broad overview of the state of the art in new media art, critical design, and media theory LO24. Identify assets that may be protected as intellectual property and distinguish between intellectual property in its different forms. LO25. Identify and address legal considerations arising from establishing an online presence.
Module Content	**Interactive Narratives (Mads Haahr/Sam Davern)** This course focuses on the concept of interactivity—how it is recognized and understood in both theory and practice—and how this impacts the developing narrative structures for digital media. Students will be introduced to various theories of interactivity, the challenges and potential of creating narratives with interactivity, and the broad array of styles and contexts of interactive narrative. **Game Studies and Design (Mads Haahr/Sam Davern)** Games are perhaps the most interactive media form. They also constitute a booming section of the entertainment industry and have a range of serious applications, such as learning and training. The course gives the student a solid grounding in the theory of games as a medium and in the practice of game design.

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[5] TEP Glossary

Cultural and Critical Theory (Radek Przedpelski)

This module will provide a cultural and critical context for interactive digital media practices. The relationship between culture, society, and technology is explored at the level of theory and praxis. This module component is cross-disciplinary, using a range of theories from sociology, critical theory, anthropology, science and technology studies, software studies, and media theory.

Legal Issues for Digital Media (Alex Towers)

Legal issues relating to online presence and how to identify and secure intangible assets (intellectual property) in digital media are explored.

This course is designed to give students an overview of the legal considerations when working online. While not designed to put students in a position where they could advise on the subjects discussed, the course should enable students to identify and address possible commercial opportunities and potential pitfalls before they arise. Students should be aware of the variety of commercial opportunities that may arise through the deliberate or incidental creation of assets that may be protected via one or more forms of intellectual property. Students should also be able to identify potential problems associated with using third-party intellectual property. They should also know the legal requirements for retaining information and online business.

Teaching and Learning Methods	Lectures, laboratories, tutorials, online, field trips, practice-based, etc.

Assessment Details[6]

Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
e.g. Examination	e.g. 2 hour written examination	e.g. LO1, LO2, LO3, LO4, LO5	80%	n/a	n/a
e.g. Essay	Mid-Term Assignment	e.g. LO5, LO6	20%	6	8

Reassessment Details   N/A

Contact Hours and Indicative Student Workload

Contact Hours (scheduled hours per student over full module), broken down by:	**66 hours**
Semester 1: Interactive Narrative	11 hours
Semester 1: Game Studies and Game Design	22 hours
Semester 2: Cultural and Critical Theory	27 hours
Semester 2: Legal Issues for Digital Media	6 hours
Independent study (outside scheduled contact hours), broken down by:	**72 hours**
preparation for classes and review of material (including preparation for examination, if applicable)	36 hours
completion of assessments (including examination, if applicable)	36 hours
Total Hours	**116 hours**

Recommended Reading List

Interactive Narratives (Mads Haahr/Sam Davern)

Barthes, Roland (1977) Image, Text Music Fontana Press.

Baudrillard, Jean (1997) "Aesthetic Illusion and Virtual Reality" Art & Artefact ed. Nicholas Zurbrugg, Sage, London

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[6] TEP Guidelines on Workload and Assessment

Harrigan, Pat and Wardrip- Fruin, Noah Edited by (2004) First Person: New Media as Story, Performance, and Game Cambridge, MA: The MIT Press.

Harmon, Katherine (2004) You Are Here: Personal Geographies and Other Maps OF The Imagination Princeton Architectural Press.

Kiousis, Spiro (2002) 'Interactivity: a concept explication' new media & society, Vol. 4(3) Sage, London

Laurel, Brenda (1991) Computers as Theatre

Manovich, Lev (2001) The language of new media, MIT Press, Cambridge, MA:

Murray, Janet H (1997) Hamlet on the Holodeck: The Future of Narrative in Cyberspace. New York: The Free Press

Game Studies and Design (Mads Haahr/Sam Davern)

Ernest Adams. Fundamentals of Game Design (2nd Edition). New Riders Publishing, 2009

Jesper Juul. Half-Real: Video Games between Real Rules and Fictional Worlds. Cambridge, MA: The MIT Press, 2005

Joost Raessens and Jeffrey Goldstein (eds.) Handbook of Computer Game Studies. Cambridge, MA: The MIT Press, 2005

Jesse Schell. The Art of Game Design: A Book of Lenses. Morgan Kauffman, 2008

Mark J. P. Wolf and Bernard Perron (eds.). The Video Game Theory Reader. Routledge, 2003

Janet H. Murray. Hamlet on the Holodeck: The Future of Narrative in Cyberspace. New York: The Free Press, 1997

Steven Johnson. Everything Bad is Good for You: How Todays Pop Culture Is Actually Making Us Smarter. New York: Riverhead Books, 2005

Selected papers from *Game Studies* and *Games and Culture*

Cultural and Critical Theory (Radek Przedpelski)

Bijker, Wiebe (Ed.), (1994) *Shaping Technology, Building Society,* London: MIT Press.

Dunne, Anthony. (2008) *Hertzian Tales: Electronic Products, Aesthetic Experience and Critical Design*, London: MIT Press.

Fuller, Matthew (Ed.) (2008). *Software Studies: A Lexicon*, London: MIT Press.

Halls, Stuart.,(Ed.) (1997). Representation: Cultural Representations and Signifying Practices

Haraway, Donna., (1991). *Simians, Cyborgs & Women: The Reinvention of N*ature

Heidegger, Martin., (1993). 'The Question Concerning Technology'. *Basic Writings.*

Mackenzie, Donald (Ed.), (1999) *The Social Shaping of Technology*, London: Open University Press.

Varnelis, Kazys (Ed.), (2007) *Networked Publics*, London: MIT Press.

Legal Issues for Digital Media (Alex Towers)

(to appear)

Module Pre-requisites	**Prerequisite modules:** None

	Other/alternative non-module prerequisites: N/A
Module Co-requisites	N/A
Module Website	https://scss.tcd.ie/postgraduate/interactive-digital-media/
Last Update	5/9/2023 by GWY

CS7028: Audio, Video, and Sensor Technologies

Module Code	CS7028
Module Name	Audio, Video, and Sensor Technologies
ECTS Weighting[7]	10 ECTS
Semester taught	Semester 1 & 2
Module Coordinator/s	Néill O'Dwyer, Jack Cawley, Andrew Holohan
Module Learning Outcomes	On successful completion of this module, students will be able to: LO26. Understand the nature of sound LO27. Use a mixing control and Digital Audio Workstations (DAWs) LO28. Use Virtual Studio Technology (VST plug-ins) LO29. Set up microphones for recording voice and acoustic instruments LO30. Conduct an audio recording session in a sound recording studio LO31. Control the audio in a live performance LO32. Create audio software using the Pure Data visual programming environment. LO33. Assess the technical requirements for producing a video. LO34. Operate professional cameras and apply shooting techniques. LO35. Produce professional-quality video projects LO36. Recognize common terms and practices in the creation of a video LO37. Shoot/light an interview with edited cutaway sequences LO38. Assess the technical requirements for producing a video. LO39. Operate professional cameras and apply shooting techniques. LO40. Produce professional-quality video projects LO41. Recognize common terms and practices in the creation of a video LO42. Shoot/light an interview with edited cutaway sequences LO43. Understand the basics of electronics LO44. Build basic circuits LO45. Program a microcontroller using an Arduino
Module Content	**Audio Technologies (Jack Cawley)** • <u>Introduction to Sound and Acoustics</u>: Acoustic waves; Time and Frequency; Decibels and loudness; Inverse Square Law; Transducer systems • <u>Room Acoustics and Psychoacoustics</u>: Pitch, Loudness, and Timbre; Impulse responses; Room acoustics: Early Reflections, diffuse field; Psychoacoustic parameters: IACC, LE, LF; Absorbers, diffusers, and room treatment • <u>Digital and Analog Audio</u>: Sampling Rate; Bit depth; AD/DA conversion; Sampling theorem; Dynamic Range • <u>Mixing Console Workflow</u>: Gain control; Equalizers; Panning, summing and master faders; Auxiliary channels; Phantom power; Pre-amplification; Pre- and Post-fader control; Cabling and standards • <u>Microphones</u>: Dynamic microphones; Condenser microphones; Microphone Directivity; Proximity effect • <u>Multitrack Recording – Digital Audio Workstations (DAWs):</u> Introduction to audio sequencing; Sequencer basics; Monitoring; Click track recording; Editing; Stereo Mixdown

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- Audio Signal Processing: Equalizers; Reverberation; Dynamic Range Processing; Modulation Effects; Distortion; Pitch Correction

- Mixing in DAWs: Panning; Equalization; Automation; Inserts; Sends; Mixing for video and games

- Recording Techniques: Monophonic microphone placement; Stereophonic Recording Techniques: Intensity stereo recording, Coincident stereo recording, ORTF, Binaural Audio

- Stereophonic Mastering: Master bus signal processing; Mastering for CD/DVD; The loudness wars; Dithering; Compression & Codecs

- MIDI: How MIDI works; Basic MIDI commands; General MIDI; MIDI Interfaces; MIDI in sequencers; Quantization; Virtual Instruments (VST plug-ins)

- Introduction to Surround Sound: Overview of Multi-Channel Audio Technology; 5.1 Surround sound basics; Setting Up for Surround Sound on commercial loudspeaker layouts; Surround Audio calibration

- Mixing and mastering for 5.1 surround sound: Surround Panning; Surround Sound signal processing; Reverberation control; LFE Channel considerations; Stereo Compatibility; Discrete Vs. Matrixed Surround Sound; Dolby Digital Encoding

- Interactive Sound Control with Pure Data (PD): Introduction to Real-time Audio Signal Processing; Audio I/O control with PD; Multichannel Audio in PD; Audio Filtering and DSP with PD; MIDI in PD

Moving Image for Digital Applications (Néill O'Dwyer)

This module will familiarize students with key concepts and debates surrounding the moving image. Theories of representation are explored alongside the development and expansion of the moving image in society. Questions of realism will be discussed; the conventions of commercial narrative cinema will be considered, along with strategies of representation that interrogate notions of transparency. Works that offer alternative approaches to form, that seek to expand the possibilities of the moving image, and re-imagine the role of the spectator shall be the focus of weekly discussion. A diverse range of influential theoretical, critical, and cultural perspectives related to studying the moving image will be illustrated via screenings of relevant material.

Moving Image for Digital Applications (Andrew Holohan)

Specific topics addressed in this module include:

- Narrative and narration
- Editing
- Mise-en-scène
- Documentary Film and Video
- Projection in Performance
- Interview techniques
- Moving Image and Interactive Installation
- Old Media, New Media, and the Contemporary Media Landscape
- Camera, Lighting and Editing in Practice
- Digital Video Specifications
- Exposure Control & Colour Balance
- Camera Controls
- Audio Recording – including the use of specific microphones
- Composition & Framing

- Lighting Techniques
- Post Production
- Audio Mixing in Post Production
- Digital Video File Encoding: data rates, frame sizes, compression rates, compression codecs, color depth

Practical topics include:

- **Introduction to Digital Video (**Introductions; Course Outline)
- **Digital Video Specifications (**Sensors: CMOS, CCD; Video formats; Pixel Aspect ratio; Frame rates; Resolution; Scan Method)
- **Exposure & Colour Balance (**Aperture; Shutter Speed; ISO / Gain; White Balance)
- **Introduction to Camera Systems (**Controls; Functions; Operation; Tripod vs Handheld)
- **Audio techniques for video production (**Diegetic, Non-Diegetic Sound; Types of microphones, Microphone placement, Room tone, & Ambient Sound)
- **Framing & Shot Types (**Shot Size; Composition theory; Headroom & Looking room; Depth of Field; Cutaways)
- **Lighting (**Safety; Hard & Soft Light; Colour Temperature; Gels & reflectors; 3 Point lighting; Lighting Ratios)
- **Editing with Adobe Premiere Pro (**Creating a new Premiere project, File formats, Capturing Footage, Editing, Exporting Movies)
- **Funding: An overview of funding sources in the Irish context, incl. RTE, BAI, TG4, Virgin Media, The Arts Council, Screen Ireland**

Introduction to Sensor Technologies (TBD)

- Introduction to Sensor Technology: This section will provide an overview of Physical Computing, the fundamentals of Electronics, and the components and tools used in the course.

- Basic Electricity and Electronics: Introduction to Electricity; Ohm's Law; What is a circuit; Reading a Resistor Chart; Reading a Schematic; Principles of Electromagnetic transduction; Using a solder-less breadboard to build a prototype circuit.

- Sensors and Actuators: Digital and Analogue sensors and actuators

- Introduction to Arduino: This course introduces programming fundamentals with Arduino and includes building a simple circuit using a sensor and an actuator.

- Introduction to the Arduino Board: Elements of the Microcontroller board; Introduction to the Software IDE; Setting up Arduino: port and board specifications.

- Buggy Project: Design and program a robot buggy that will autonomously carry out tasks such as navigating a maze.

Teaching and Learning Methods	Lectures, laboratories, tutorials, online, field trips, practice-based, etc.

Assessment Details[8]	Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
	Buggy Project (Andrew Holohan)	Final term assignment	L18, L19, L20			
	(Jack Cawley)					
	(Néill O'Dwyer)					

Reassessment Details	N/A

Contact Hours and Indicative Student Workload	Contact Hours (scheduled hours per student over full module), broken down by:	66 hours
	Semester 1: Audio Technologies	22 hours
	Semester 1: Moving Image for Digital Applications (Vivienne O'Kelly)	11 hours
	Semester 2: Moving Image for Digital Applications (Tom Burke)	22 hours
	Semester 2: Sensor Technologies	11 hours
	Independent study (outside scheduled contact hours), broken down by:	X hours
	preparation for classes and review of material (including preparation for the examination, if applicable)	X hours
	completion of assessments (including examination, if applicable)	X hours
	Total Hours	X hours

Recommended Reading List	Students will be given recommended reading weekly and expected to read broadly beyond the topics covered during lectures.

Module Pre-requisites	**Prerequisite modules:** None **Other/alternative non-module prerequisites:** N/A

Module Co-requisites	N/A

Module Website	https://scss.tcd.ie/postgraduate/interactive-digital-media/

Last Update	5/9/2023 by GWY

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CS7029: Visual Computing and Design

Module Code	CS7029
Module Name	Visual Computing and Design
ECTS Weighting[9]	10 ECTS
Semester taught	Semester 1 & 2
Module Coordinator/s	Eamonn Hall and John Dingliana
Module Learning Outcomes	On successful completion of this module, students will be able to: LO46. Identify key formal elements in graphic design processes and practices LO47. Analyse graphic design and visual cultural products in an informed and structured manner LO48. Evaluate these products in terms of formal (i.e., functional) success and socio-cultural & technological relevance LO49. Identify key theoretical principles, standard algorithms, and data structures underlying modern graphical applications. LO50. Discuss how fundamental components common to all computer applications produce high-level computer imagery in digital media and interactive graphical programs. LO51. Employ industry-standard computer-aided design software to create 3D objects and models, modify a virtual camera, and animate and render images and videos of complex virtual scenes. LO52. Write computer programs for modifying computer images and generating graphical objects in 2D and 3D LO53. Implement an interactive computer application that handles input events from the user (such as a mouse and keyboard input) to affect the graphical output LO54. Implement a basic virtual reality application.
Module Content	**Graphic Design (Eamonn Hall)** • Information Design • Typography • Non-linguistic visual communication • Text and image interaction **Image Processing and 3D Modelling (John Dingliana)** This module aims to equip students with a fundamental understanding of the technology underlying the field of computer images and how this is applied to advanced areas such as geometric modeling, rendering, and animation. The module will explore input and output modes and the limitations and potentials of (graphical) digital media. In particular, the module introduces computer graphics and applications and how digital images are represented, manipulated, enhanced, filtered, and displayed. Furthermore, the creation of 3D models and scenes, texture mapping, illumination and lighting, camera modeling, and animation are discussed. The second semester will extend this knowledge by programming interactive 3D Graphics, image and video processing, procedural

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	graphics, and mixed reality. Practical components involving labs will use the following applications: *3D Studio Max, Processing, etc.*
Teaching and Learning Methods	**Graphic design (Eamonn Hall)** Sessions will alternate between lecture/seminar and lab formats. Lectures will introduce the key issues, leading theorists, and visual trends in each topic (information design, typography, text-image interaction, non-linguistic visual communication). The focus will be on teaching fundamental principles of graphic design and design thinking that can be applied in multiple contexts. Introductory instruction on core Adobe CC software (Illustrator, Photoshop, InDesign) will be provided. **Image Processing and 3D Modelling (John Dingliana)** Through discussion and practical assignments, the module provides an understanding of the production processes, complexity, tools, and challenges of producing digital images, animations, and interactive graphical experiences, including games, virtual reality, and augmented reality. **Semester 1** deals with 3D graphics and modeling and consists of one hour of weekly lectures or labs. Assignments involve creating models, images, and animations using industry-standard tools like 3D Studio Max or Maya. **Semester 2** deals with Image Processing and Interactive Graphics and consists of three hours per week of lectures and labs. Assignments will involve graphical programming using languages such as Processing.

Assessment Details[10]

Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
Examination	2-hour written examination	e.g. LO1, LO2, LO3, LO4, LO5	80%	n/a	n/a
Essay	Mid-Term Assignment	e.g. LO5, LO6	20%	6	8

Image Processing and 3D Modelling (John Dingliana)

Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
Essay	Introduction to visual computing	LO1	2%	3	4
Practical	Model a complete 3D Scene	L01, L02, L03	38%	8	22
Practical	Introduction to Processing	L04, L05	2%	22	23
Practical	Interactive Graphics	L04, L05	3%	23	24
Practical	Image Processing	L04, L05	5%	24	25
Practical	Image Stylisation	L04, L05	5%	25	26
Practical	Video Processing	L04, L05	3%	26	27
Practical	Mid-Term Assignment	L04, L05	20%	27	29
Practical	Interactive 3D Graphics	L04, L05	2%	29	30
Practical	Procedural Graphics	L04, L05	5%	30	31
Practical	Mobile Processing	L04, L05	5%	31	32
Practical	Mixed Reality	L04, L05	10%	32	34

Reassessment Details	N/A

Contact Hours and Indicative Student Workload

Contact Hours (scheduled hours per student over full module), broken down by:	66hours
Semester 1: Graphic Design Lectures	22 hours
Semester 1: Image Processing and 3D Modelling	11 hours

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Semester 2: Image Processing and 3D Modelling	33 hours
Independent study (outside scheduled contact hours), broken down by:	**72 hours**
preparation for classes and review of material (including preparation for examination, if applicable)	36 hours/10 hours
completion of assessments (including examination, if applicable)	36 hours/20 hours
Total Hours	**116 hours**

Recommended Reading List

Graphic Design (Eamonn Hall)

Graphic design practice

- Rob Carter, Meggs, et al (eds). <u>Typographic Design: Form and Communication</u>. 6th edn. Hoboken: John Wiley, 2015.

- Gerstner, Karl. <u>Designing programmes</u>. Tiranti, 1968.

- Lupton, Ellen. <u>Thinking With Type</u>. New York: Princeton Architectural Press, 2004.

- Müller-Brockmann, Josef. <u>Grid Systems in Graphic Design</u>. Niggli Verlag, 2008.

Critical theory, visual studies and semiotics

- Barthes, Roland; "Rhetoric of the Image." Image Music Text. London: Fontana, 1987. (also in: Evans Jessica and Stuart Hall (Eds.); <u>Visual Culture: The Reader</u>. London: Sage 1999.)

- Berger, John. <u>Ways of Seeing</u>. London: Penguin, 1990.

- Benjamin, Walter. 'The Work of Art in the Age of Mechanical Reproduction.' - in <u>Illuminations</u>. London: Pimlico, 1999. (also in: Evans Jessica and Stuart Hall (Eds.); <u>Visual Culture: The Reader.</u> London: Sage, 1999.)

- Fiske, John. <u>Introduction to Communication Studies</u>, 2nd edn. London: Routledge, 1990.

- Baudrillard, Jean. <u>The System of Objects</u>. London: Verso 1996.

Design theory and criticism

- Bierut, Michael (ed.). <u>Looking Closer: Critical Writings on Graphic Design</u>. London: Allworth Press, 1995.

- Bierut, Michael (ed.). <u>Looking Closer: Critical Writings on Graphic Design</u>. London: Allworth Press, 1995.

- Frutiger, Adrian. <u>Type Sign Symbol</u>. Zurich: ABC Verlag, 1980. https://monoskop.org/images/b/b6/Frutiger_Adrian_Type_Sign_Symbol.pdf

- Lupton, Ellen & Abbott Miller (Eds.); Design Writing Research. London: Phaidon Press, 1999.

- Warde, Beatrice. 'The Crystal Goblin'. 1932. (Heavily anthologised and easily located online).

Graphic design history

- Meggs, Philip B.; A History of Graphic Design. London: John Wiley & Sons Inc, 1998.

- Poynor, Rick. <u>Typographica</u>. London: Laurence King, 2001.

- Rick Poynor, <u>Graphic Design and Postmodernism</u>. London: Laurence King, 2003.
- Spencer, Herbert. <u>Pioneers of Modern Typography</u>. London: Lund Humphries, 1969.

Information Design

- Burke, Kindel, Walker (eds). <u>Isotype: Design and contexts 1925–1971</u>. London: Hyphen Press, 2013.
- Tufte, Edward R.; <u>The Visual Display of Quantitative Information</u>. London: Graphics Press UK, 2001.
- Tufte, Edward R.; <u>Envisioning Information</u>. London: Graphics Press UK, 1990.
- Tufte, Edward R.; <u>Visual Explanations</u>. London: Graphics Press USA, 1997.
- Tufte, Edward R.; <u>Beautiful Evidence</u>. London: Graphics Press UK, 2006.

Image Processing and 3D Modelling (John Dingliana)

The module is not based on a single textbook. The following are recommended readings. Note that the texts overlap somewhat in scope.

- The Computer in the Visual Arts. Anne Morgan Spalter.
- CG101: A Computer Graphics Industry Reference. Terrence Masson, (2007).
- Computer Graphics: Principals and Practice (3rd Edition), J. F. Hughes, A. van Dam, M. McGuire, D. F. Sklar, J. D. Foley, Steven K. Feiner, K. Akeley. Addision Wesley Professional (2013)
- The Computer Image, A. Watt and F. Policarpo. Addison Wesley, (1998).
- Learning Processing, Second Edition: A Beginner's Guide to Programming Images, Animation, and Interaction. Daniel Shiffman. Morgan Kaufmann (2015).
- Processing: An Introduction to Programming. Jeffrey L. Nyhoff, Larry R. Nyhoff. CRC Press (2017).
- Processing: A Programming Handbook for Visual Designers and Artists – C. Reas and B. Fry
- Processing: Creative Coding and Computational Art – I. Greenberg
- *The following are roughly equivalent alternatives:*
- Computer Graphics with OpenGL (3rd Edition), D. Hearn and M. P. Baker.
- Interactive Computer Graphics: A Top-Down Approach using OpenGL (4th Edition), Edward Angel.
- Computer Graphics Using Open GL (2nd Edition), Francis S. Hill.
- Computer Graphics: Theory Into Practice. Jeffrey J. McConnell.
- Introduction to Computer Graphics, J. D. Foley, A. van Dam, S. K. Feiner, J. F. Hughes, R. L. Phillips.
- Computer Graphics: Principles and Practice in C (2nd Edition), J. D. Foley, A. van Dam, S. K. Feiner, J. F. Hughes.Computer Graphics: Principles and Practice in C (2nd Edition), J. D. Foley, A. van Dam, S. K. Feiner, J. F. Hughes.

Module Pre-requisites	**Prerequisite modules:** None
	Other/alternative non-module prerequisites: N/A

Module Co-requisites	N/A
Module Website	https://scss.tcd.ie/postgraduate/interactive-digital-media/
Last Update	5/9/2023 by GWY

CS7043: Final Project

Module Code	CS7043
Module Name	Summer Research Project
ECTS Weighting[11]	30 ECTS - Derogation
Semester taught	3
Module Coordinator/s	Gareth W. Young (Coordinator) and other Lecturers
Module Learning Outcomes	On successful completion of this module, students will be able to: LO55. Demonstrate the skills and technologies learned during the academic year LO56. Provide an opportunity for each student to demonstrate and showcase their skills LO57. Provide an opportunity to build teamwork skills LO58. Learn how to develop an initial creative concept into a fully realized interactive installation LO59. Develop the ability to think through creative practice LO60. Utilize the programming languages and tools learned in the course LO61. Develop visual styles and designs suited to interactive narratives LO62. Understand the use of moving images in interactive narrative LO63. Investigate new and innovative ways of interacting with web content LO64. Understand how to deliver non-linear narratives for local and remote access LO65. Create and edit audio content suited to online interaction and delivery
Module Content	The Summer Research Project is a team project based on Creative Practice as a mode of Research and Inquiry. The idea is to develop the ability to think through creative practice to explore deeper questions of interest. Each team will develop a core idea based on a deeper question or ambition of their interest. They will then design and build an object, installation, system, or application that engages with the question or realizes the ambition. The final projects will be displayed in the Annual IDM Showcase, typically held in the Science Gallery in late August. The Summer Research Project aims to promote teamwork, allow students to show their skills and experiences within the context of defined projects, and result in strong portfolio pieces for each student. All coursework and assignments throughout the academic year are directed toward acquiring and developing the skills required to complete the Summer Research Project. Projects are supervised by a Lecturer and reviewed by the Court of Examiners. The Court of Examiners awards the final marks for each student based on the project as exhibited in the showcase and on an individual process report produced by each student.
Teaching and Learning Methods	Frequent meetings with the project supervisor and meetings with other teams.

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	Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
Assessment Details[12]	Project	Exhibition	LO1-LO11	80%	n/a	n/a
	Individual Report	Process report, 10-20 pages	LO1-LO11	20%	n/a	n/a

Reassessment Details	N/A

Contact Hours and Indicative Student Workload	Contact Hours (scheduled hours per student over full module), broken down by:	Variable
	Meetings with supervisor	Variable
	Independent study (outside scheduled contact hours), broken down by:	**Variable**
	Project-specific learning	Variable
	Total Hours	**Variable**

Recommended Reading List	Sullivan, Graeme, ed. *Art practice as research: Inquiry in visual arts*. Sage, 2010.
	Harris, Craig, ed. *Art and innovation: the Xerox PARC Artist-in-Residence program*. Mit Press, 1999.
	Wilson, Stephen. *Information arts: intersections of art, science, and technology*. MIT press, 2002.

Module Pre-requisites	**Prerequisite modules:** All other IDM Modules
	Other/alternative non-module prerequisites: N/A

Module Co-requisites	N/A

Module Website	https://scss.tcd.ie/postgraduate/interactive-digital-media/

Last Update	5/9/2023 by GWY

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[12] TEP Guidelines on Workload and Assessment

CS7044: Research Paper

Module Code	CS7044
Module Name	Research Paper
ECTS Weighting[13]	10 ECTS
Semester taught	Semester 1 & 2
Module Coordinator/s	Prof. Carol O'Sullivan and other Lecturers
Module Learning Outcomes	On successful completion of this module, students will be able to: LO66. Identify a relevant and feasible area of research LO67. Formulate and clarify a focused research question LO68. Demonstrate clarity of problem definition and scope LO69. Successfully plan and manage an extended research and writing process LO70. Locate and assess potential research sources LO71. Evaluate sources for their relevance to the topic at hand and the existing field of knowledge LO72. Critically analyze and integrate appropriate secondary literature LO73. Demonstrate apposite close reading skills (for example, reading for key concepts, assessing the logic of arguments put forward, finding the contexts of claims made, establishing the addressee of the text or arguments, summarizing and representing arguments, etc.) And a working knowledge of what constitutes an explanation, of how to substantiate claims, and provide sufficient evidence in support of assertions. LO74. Make an informed choice about appropriate research methods and/or approaches for specific research questions LO75. Demonstrate proficiency in the analysis and interpretation of qualitative and/or quantitative data, where appropriate LO76. Show an awareness of, and ability to, articulate the ground from which the analysis proceeds and from which arguments, evidence, explanations, and logic are assessed LO77. Make logical connections between premises and conclusions, assertions and evidence, case studies and arguments, analyses and exemplifications, cause (s) and effect(s), statements of intent and motivations, and statement of fact and interpretation LO78. Sustain a coherent line of extended argument that engages with existing knowledge in the chosen area of study and exercise critical judgement on the information and/or explanations they offer LO79. Use analytic skills in writing (rather than extensive description in lieu of analysis) LO80. Write in a clear style and adhere to conventional academic practice with regards citations, footnotes, and referencing LO81. Demonstrate the independent learning ability required to advance his or her knowledge and understanding as part of their on-going professional development Second learning outcome

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Module Content	The Research Paper aims to develop students' research and writing abilities through substantial independent work. Further, it aims for learners to demonstrate proficiency in designing a research paper, applying appropriate research methods or approaches, collecting and analyzing data and/or relevant literature, and applying area-specific theories and concepts. Students are expected to formulate their research question (with their Lecturers' guidance), gather and select material to answer their research question, and set out their findings in an appropriate academic style.
Teaching and Learning Methods	Research seminars and submit a research paper proposal to the module coordinator.
	If using AI tools for the research paper, students must be extra conscious of the College's regulations regarding plagiarism. Further information can be found in "Individual Work and Plagiarism" and "Appendix 9. College Calendar Entry on Plagiarism" in this Course Handbook.
	If using AI tools for the Research Paper, the student must add an appendix showing (a) a description of precisely which AI tools were used (e.g. ChatGPT private subscription version or DALL-E free version), (b) an explanation which parts of the document were AI tools used in relation with (e.g., Introduction, Results section etc), (b) description of how the AI tools were used (e.g. to generate ideas, turns of phrase, elements of text, long stretches of text, lines of argument, pieces of evidence, maps of conceptual territory, illustrations of key concepts, etc.); (d) an account of why AI tools were used (e.g. to save time, to surmount writer's block, to stimulate thinking, to handle mounting stress, to clarify prose, to translate text, etc.)

Assessment Details[14]

Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
Research Paper	12,000-word Research Paper undertaken by independent research	LO1-LO16	100%	4	See Course Calendar

Reassessment Details	N/A

Contact Hours and Indicative Student Workload

Contact Hours (scheduled hours per student over full module), broken down by:	Variable
Supervision meetings	Variable
Independent study (outside scheduled contact hours), broken down by:	**Variable**
Developing Research Paper Proposal	Variable
Research and Paper Writing	Variable
Total Hours	**Variable**

Recommended Reading List	Variable, depending on the student's chosen topics.
Module Pre-requisites	**Prerequisite modules:** none
	Other/alternative non-module prerequisites: none
Module Co-requisites	None
Module Website	https://scss.tcd.ie/postgraduate/interactive-digital-media/
Last Update	5/9/2023 by GWY

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CS7044 Research Paper – Important Dates

- October: The Research Paper topic is selected

- October: Research Paper Proposal Submitted

- November: Proposal Decision accepted/rejected, supervisor appointed

- May: Research Paper submitted: A PDF copy of the Research Paper and Abstract must be uploaded to Blackboard by this date

CS7044 Research Paper – Supervision

What to expect from your research paper supervisor:

- To meet with you at least 3-4 times during the process
- Give general feedback on your proposal and topic
- Give feedback on your proposed timeline/milestones
- Help scope the paper and suggest improvements in focus
- Guide you as to the most suitable structure for your paper
- Supply a few names of papers, books, or authors you should read
- Later in the process, give high-level feedback on your chapters, specifically content and academic style

What NOT to expect from your research paper supervisor:

- To produce a timeline/milestone list for you
- To project-manage your research paper or remind you of your own timeline and milestone deadlines
- To produce a full reading list of specific links or references
- To read anything you write more than once
- To proof-read your chapters or correct your English
- To send you detailed written feedback by email

CS7044 Research Paper Proposal Form

Please describe the research topic on which you propose to work under the following headings:

Student Name:

Project Title (include both the deeper question of your research and the specific focus of your work):

Project Summary:

Your expertise and how well you are positioned to carry out this work:

Prior work (if your project is to be a continuation of a previous project, summarise the results of that project and say how your work will build on those results):

Connections to funded/collaborative projects (will your project be connected to ongoing research, e.g., commissioned by a funding body? If so, please outline the larger study, those involved in the work, and your expected contribution).

Research Aims:

Potential benefits of the study for the field:

Background (Identify initial sources for background literature in terms of specific books and papers and journals/conferences/websites likely to contain material):

Proposed methodology/implementation approach:

Evaluation criteria (How will the results of your work be evaluated?):

Publication plan (what journals/conferences should be targeted or what organizations should be informed of your work?):

Workplan (including work deliverables and dates for identified project stages):

Ethics and research on human subjects

Any research project that involves human participation conducted through the courses (for example, a questionnaire or survey, system user evaluation, etc.) must have independent review by a Research Ethics Committee before its commencement.

A fundamental principle is that prospective participants should be fully informed about the research and its implications for them as participants, with time to reflect on the possibility of participation before being asked to sign an informed consent form.

For research associated with the School of Computer Science & Statistics, detailed information on the ethics application process can be found at https://www.tcd.ie/scss/research/research-ethics/tcd-reams-research-ethics-management-system/.

It takes time to prepare an application for research ethics approval, to have the application considered, and to respond to feedback on the application where issues are raised. It would help if you planned in your work for the time it takes to obtain research ethics approval.

Suppose this is your first time applying for ethical approval. In that case, it is suggested that you prepare your application and then make a special appointment with your supervisor to go through the ethical application. As your supervisor has previous experience preparing applications and has to sign the application, this should hasten the process and reduce or eliminate any amendments required.

Retrospective approval will not be granted.

Please also note research conducted in the School of Computer Science and Statistics should be undertaken with cognizance of the TCD Guidelines for Good Research Practice; see https://www.tcd.ie/graduatestudies/assets/pdf/TCD-good-research-practice.pdf.

Marking Criteria

CS7044 Research Paper

General Criteria

- Strength of overall argument

- Relationship of answer to research question

- Coherence and internal consistency of the research Paper

- Use and integration of information/sources gathered

- Level of critical awareness and analytical understanding

- Sustained and coherent argumentation

- Use and choice of examples and case studies

- Structure and organization of the argument

- Consistent development of central issues/themes

- Awareness of audience

- Adherence to accepted and proper academic convention

Specific Criteria

These relate more specifically to the achievement of individual learning outcomes; for example:

- Quality, relevance, and range of literature used

- Integration of secondary sources to support argument and/or synthesis of data and explanatory ideas/concepts/theories

- Understanding of competing explanations and interpretations

- Appropriate use of research strategies and methods (this addresses 'how' the research Paper question/research was answered/undertaken)

- Sense of where the research is situated in a larger field of knowledge

- Sense of context for case studies/ideas used and careful presentation of background for inquiry

- Evaluation of complex issues systematically and creatively

- Reveals originality in the application of knowledge (originality is taken to mean work that is original to the student, and in which they demonstrate innovation and or initiative in arriving at an idea or conclusion)

- Justification and explanation of research issues specific to the topic

- Adequate conclusions related to the research question, data, and literature (where appropriate)

- Writing – quality, tone, style

- Correct use of citations, references, and academic conventions

- Use of diagrams and illustrations where appropriate

Process Criteria

- Made contact, provided interim drafts for review, met deadlines, and worked consistently

- Able to reflect on their process and learning, grew through the process of research and writing

- Made use of constructive feedback

Excellent

A Research Paper falls into the excellent range (70% and up) if, for example, it:

- Scores highly in all three criteria areas

- Instances an exemplary range and depth of attainment with regard to the learning outcomes

- Is perceptive, insightful, and original/innovative and/or presents a novel approach to or deep analysis of the research question

- Is comprehensive in its understanding of the topic

- Has a discriminating command of relevant materials and analyses

- Reveals a commanding ability to synthesize relevant secondary literature

- Displays sound critical examination and analytical justification of key theorists/approaches/case studies

- Is coherent, internally consistent, well organized, and exceptionally argued

- Is carefully and effectively presented

Very Good

A Research Paper falls into the very good range (60-69%) if, for example, it:

- Satisfactorily meets many of the descriptors in all three evaluation criteria

- Evidence of a good range of attainment with regard to the learning outcomes

- Is insightful in its approach to or analysis of a problem

- Shows an above-average comprehension of the topic and a good general critical awareness of issues raised

- Has a clear command of relevant materials, analyses, and secondary literature

- Displays sound critical examination and analytical justification of key theorists/approaches/case studies

- Is coherent, internally consistent, well organized, and lucidly argued

- Is carefully and effectively presented

Good/Fair

A research paper falls into the good/fair range (50-59%) if, for example, it:

- Adequately meets a number of the descriptors in at least two of the three evaluation criteria

- Evidence of a degree of competence with regard to the learning outcomes

- Is passable in its approach to a problem/research question but is more descriptive than critical/analytical

- Provides a competent rationale for the research undertaken

- Is fair in its awareness of methods of interpretation and/or argumentation

- Has a qualified familiarity with relevant materials, analyses, and secondary literature

- Displays mixed evidence with regard to critical examination and justification of key theorists/approaches/case studies

- Is less than secure in its through line and organization and in its integration of different sections

- Presents some unsupported assertions

- Displays some discrepancies in language and academic convention usage

Poor/Fail

A Research Paper falls into the poor/fail range (0-49%) if, for example, it:

- Scores badly in all three areas of evaluation

- Displays a limited achievement of learning outcomes

- Lacks focus and scope

- Is badly structured and reveals little understanding of research design/feasibility

- Is deficient in critical respects, lacking a secure basis in relevant empirical or analytical dimensions

- Presents incomplete and flawed explanations, evidence, and argumentation

- Has a lack of internal consistency

- Has an inadequate presentation of the relevant literature for this level of study and relies too much on a limited range of sources

- Presents an inappropriate or limited rationale for the research approach and/or data collection methods used

- Is poorly referenced, poorly presented, and uses very unclear language with serious errors

Research Paper Guidelines

This outline is a guide, and considerable variation is likely depending on the nature of the research undertaken. For examples of prior research papers, please see the following:

https://www.scss.tcd.ie/publications/theses/diss/dissertation-index.idm.php

Chapter 1: Introduction

This section should briefly explain why you undertook the research, the general state of knowledge when you started, and why you asked the questions your research was expected to answer. It should state your research question and briefly introduce the research undertaken. A brief reader's guide to the research Paper should be included.

Chapter 2: State-of-the-Art

This section must be a critical review in which the various papers are compared, and you express your opinion of the conclusions that may be drawn. You must also do your best to reconcile discrepant results in favor of one or other sets. Provide a summary at the end of the sections or the review. Remember that the content of this chapter must be relevant to the actual research carried out; it is not a "brain dump" of everything you have read. You must demonstrate analysis and synthesis of the literature.

Chapter 3: Design/Methodology

The general structure of the study should be described clearly. The comparisons, controls, technical details, etc., should be included if appropriate. Where software has been developed, this chapter might report on the system's design.

Chapter 4: Implementation/Results

Depending on the nature of the project, this chapter will describe the actual work carried out, e.g., any experiments undertaken or system implementation.

Chapter 5: Evaluation/Analysis

In this chapter, discuss your results in light of what is already supposed to be known, show how they confirm or refute previous work, and state what you think is new. Do not use this section for another review of the literature.

Chapter 6: Conclusions and Future Work

This section should be a short account of the results of your work, emphasizing what is new. There should be a close correlation between this chapter and Chapter 1, in which you described the problem you were addressing. It is advisable to deal with the limitations of your research at this stage and to suggest here what further work might be done. This section is the appropriate place to do a self-assessment of your study.

References

References should be consistently cited in the text. The references in the Reference List at the back of the research Paper should be listed in the same way as they are cited in the text. They should also be complete so that the reader wanting to locate a particular reference has all the necessary information (including page numbers!).

It is increasingly common to cite references to the World Wide Web. For web references, please provide the URL and the date on which the site was accessed. Where an article has been published on the Web and in print, use the print reference in preference.

Appendices

These should contain unnecessary supplementary material for the reader to follow the argument. For example, the text of a questionnaire should be placed in an Appendix. Including the source file for the document is unnecessary, but you may do so by inserting a disc or CD in a pocket at the back of the Research Paper.

Submission of Research Paper

The Research Paper and your Abstract should be submitted through Blackboard.

Upload your dissertation as a single PDF file. Upload the abstract of your Research Paper in a single PDF format. The Abstract page should include:

1. Your name
2. Full title of your degree
3. Title of your dissertation
4. Name of your supervisor
5. Year
6. Text of the abstract of your dissertation

Additional notes:

- Please use the form of words given in the Appendix of this document for the title page and declarations in your Research Paper.

And the bottom line:

The deadline is absolute. You will not be eligible for the MSc award if you miss the deadline.

CS7043 Research Project

Projects are evaluated on four overall criteria. (Excellent: 70%+; Very good: 60—69%; Good/Fair: 50—59%; Poor/Fail: under 0—49%. Note: per regulations, a grade of 50% overall is required to pass).

Conceptual

- Excellent: Highly original, well contextualized, thoroughly engaging, reflects creative and independent thought.

- Very Good: The concept is clear and well played out in the project, though not necessarily novel or wholly original. Some evidence that the conceptual context is understood.

- Good/Fair: Less than original, or somewhat vague, ideas; weak evidence of contextualization.

- Poor/Fail: The project lacks a discernible concept, or the concept falls below the standard expected.

Aesthetic and Design

- Excellent: Compelling overall aesthetic, well thought through, inventive, novel. Demonstrates a mature understanding of design.

- Very Good: Clear and cohesive

- Good/Fair: Some inconsistencies or clichés in design; some elements are underdeveloped.

- Poor/Fail: Generally inconsistent design; lack of attention to overall aesthetics.

Process and Professionalism

- Excellent: Consistent, steady work throughout the project; good response to feedback; met project milestones and deadlines well. Good follow-through on tasks. Constructive approach to problem solving.

- Very Good: Deadlines, goals, and meetings were mostly met. There was a good level of teamwork and problem-solving. Feedback was generally well incorporated.

- Good/Fair: There were some problems with deadlines or teamwork, but the team was generally productive. Feedback was not always properly addressed.

- Poor/Fail: Poor or disorganized teamwork, significant communication problems, many components late or not delivered acceptably, and a lack of consistent work.

Technical

- Excellent: The project makes successful, ambitious use of technology. Coding is to a very high standard.

- Very Good: A finished project that makes proficient use of technology. Some minor technical issues do not interfere with the overall experience of the project.

- Good/Fair: There are some technical flaws. The project fails to make sophisticated use of technology (though there is some attempt).

- Poor/Fail: Severe technical problems.

Research Project Progress Monitoring

- All groups are expected to meet regularly and remain in good contact throughout the entire project

- The group should maintain a single group blog, which each group member should update regularly (weekly, at a minimum) to document progress and activities.

- Groups must meet regularly with the supervisor to discuss progress on the project and receive feedback.

- Milestones and prototypes: It is recommended that each group demonstrate prototypes (or some other agreed-upon form) to their supervisor at least twice during the project, during the first month and again no less than three weeks before the completion of the project

- Attendance: Under normal circumstances, all students are expected to attend each group meeting and each supervision meeting during the project.

CS7043 Individual Process Report Guidelines

The individual report for the summer project (CS7043) is a reflective document in which each student articulates their contributions, the process they followed, and how they applied the skills and knowledge gained throughout the course. Typically, such a report would range between 10 and 20 pages.

Here's an outline of what such a report **might** contain:

Title Page

- Title of the Project
- Student's Name
- Student ID
- Date of Submission
- Supervisor's Name

Introduction (1 or 1 ½ pages)

- Overview of the Project:
  - A brief team project description, including the main goals and objectives.
  - The overall concept or theme of the project.
- Role in the Project:
  - A summary of your specific role(s) within the team, detailing your responsibilities.

Project Development Process (main bulk of the report to be written during the summer project)

A week-by-week breakdown of your individual process, e.g., covering the following concepts as the project progresses:

- Initial Conceptualization:
  - Discuss the early stages of the project, including brainstorming sessions, initial ideas, and how the final concept was decided.
- Research and Planning:
  - Detail the research you conducted to inform your contributions.
  - Explain any planning tools or methodologies, such as Gantt charts, wireframes, or prototypes.
- Design and Implementation:
  - Describe your specific tasks in the design and implementation phases.
  - Tools and technologies you used (e.g., software, programming languages).
  - Challenges you encountered and how you overcame them.
- Team Collaboration:
  - How you worked with other team members, including communication strategies, meetings, and any collaborative tools used.
- Reflection on the team dynamics and your role within it.

Reflection on Learning Outcomes (1½ - 2 pages)

- Final Deliverable:

- o A summary description of the final project, highlighting your contributions.
  - o Discuss any feedback from the project showcase and how it reflected on its success.
- Application of Course Learning:
  - o Reflect on how you applied the skills and knowledge acquired from the course modules in the project.
  - o Include specific examples of how concepts from lectures, labs, or readings influenced your work.
- Skills Development:
  - o Discuss the development of new skills during the project, both technical (e.g., coding, design) and soft skills (e.g., teamwork, problem solving).
- Professional Growth:
  - o How has the project contributed to your overall growth as a professional in interactive digital media?
- Evaluation of Success:
  - o Reflect on the success of the project in achieving its goals.
  - o Include any metrics or qualitative assessments that indicate the project's impact.

Explanation of ECTS Weighting

The European Credit Transfer and Accumulation System (ECTS) is an academic credit system based on the estimated student workload required to achieve the objectives of a module or program of study. It is designed to enable academic recognition for study periods, facilitate student mobility, and facilitate credit accumulation and transfer. The ECTS is the recommended credit system for higher education in Ireland and across the European Higher Education Area.

The ECTS weighting for a module is a measure of the student input or workload required for that module based on factors such as the number of contact hours, the number and length of written or verbally presented assessment exercises, class preparation and private study time, laboratory classes, examinations, clinical attendance, professional training placements, and so on as appropriate. There is no intrinsic relationship between a module's credit volume and difficulty level.

The European norm for full-time study over one academic year is 60 credits. One credit represents 20-25 hours of estimated student input, so a 10-credit module will be designed to require 200-250 hours of student input, including class contact time, assessments, and examinations.

ECTS credits are awarded to a student only upon successful completion of the course year. The course regulations determine progression from one year to the next. Students who fail a year of their course will not obtain credit for that year even if they have passed a particular component. Exceptions to this rule are one-year and part-year visiting students, who are awarded credit for individual modules completed.

College IT Services

IT Services looks after the computer facilities in the College for all Schools except the School of Computer Science and Statistics.

https://www.tcd.ie/itservices/

Usernames and Passwords

When you register at the College, you are given a username and password. IT Services has allocated these to you. The School of Computer Science and Statistics gets a copy of these details and sets up an account for you. This account will have the same username and password given to you at registration.

Labs

Once you have your computer science account, you can use the computers at the School of Computer Science and Statistics. You will also be able to use any non-computer science computers. Labs that are non-computer science are known as Public Access Labs.

To take a look at the Public Access Labs available in College, go to:

https://www.tcd.ie/Maps/facilities.php

Email

You may have two email accounts, one provided by IT Services (username@tcd.ie) and one by the School of Computer Science and Statistics (username@scss.tcd.ie). Messages sent to the CS account will be forwarded automatically to the @tcd account, which you will access via myzone, a Google service. See the following for details:

https://www.tcd.ie/itservices/email/myzone.php

You are expected to read College email messages regularly, ideally daily.

IDM SPecific Facilities and Equipment

The School of Computer Science and Statistics makes considerable equipment available to the IDM students.

Windows PCs

Each IDM student has access to a Windows desktop PC located on the top two floors of Westland Square. The PCs have software installed that is required for the different courses and are also equipped with audio interfaces.

When the course begins, we ask each student to choose a PC and put their name on it for the duration of the course.

VR Lab

The school has a small Virtual Reality (VR) lab in Westland Square that is available for the IDM class.

Game Lab

The school has a small game lab in Westland Square that is available for the IDM class. This lab contains a large TV set, game consoles, and games.

Equipment Pool

The school has an equipment pool with special equipment available to IDM students for courses, projects, or regular experimentation. To avail of this equipment, please book it using the following web page:

https://www.scss.tcd.ie/cgi-bin/webcal/devices/

Once the equipment has been booked, it can be collected from Cathal O'Connor (the Westland Square Technician) on the 2nd floor in Westland Square.

Appendix 1: Useful TCD Web Links

There are many valuable websites in TCD. Here are a number of them.

Site	Address
TCD Website	http://www.tcd.ie
Library	http://www.tcd.ie/Library/
Information System Services	http://www.tcd.ie/itservices/
Graduate Studies	https://www.tcd.ie/Graduate_Studies/
Student Counselling	http://www.tcd.ie/Student_Counselling/
Computer Science and Statistics	http://www.scss.tcd.ie
TCD Staff Peoplefinder	http://peoplefinder.tcd.ie

If you find any other TCD links useful for the class, please email the Course Director.

Appendix 2: Maps

Maps can be found online here:

http://www.tcd.ie/maps

Use the a-z search to find specific buildings.

The adjacent map marks the Westland Square lecture room and the O'Reilly building with circles.
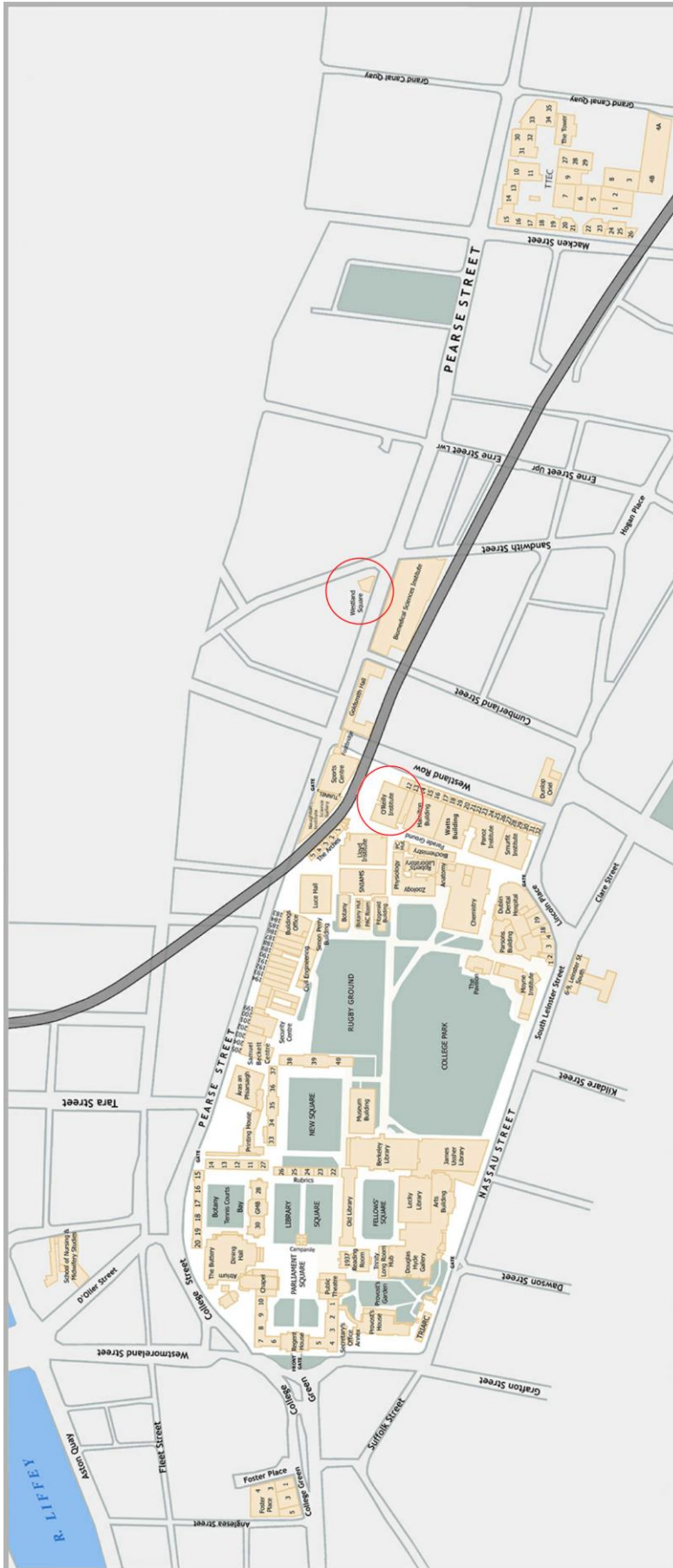
Appendix 3: Marking Sheet for Research Paper (Supervisor's Form)

MSc in Interactive Digital Media

Student Name:		
Student Number:		
Research Paper Title:		
Supervisor (Block Caps): ... **Second Reader (Block Caps):** ... **Signature:**		

Please see the attached Evaluation Categories and Descriptors as well as the Research Paper Aim and Learning Outcomes.

General Criteria (40/100)	Comments:	Mark:
	57	
		Final: ___/40

Process Criteria (20/100)	Comments:	Mark:
		Final: ___/20

Specific Criteria (40/100)	Comments:	Mark:
		Final: ___/40

General Criteria	
Process Criteria	
Specific Criteria	
Final Mark	____ / 100

Please feel free to make any comments on the Research Paper that might help to develop and maintain the objectives and learning outcomes for this component of the course.

Appendix 4: Marking Sheet for Research Paper (Second Reader's Form)

MSc in Interactive Digital Media

Student Name:		
Student Number:		
Research Paper Title:		
Supervisor (Block Caps):		**Second Reader (Block Caps):** **Signature:**

Please see the attached Evaluation Categories and Descriptors as well as Research Paper Aim and Learning Outcomes

General Criteria (50/100)	Comments:	Mark:
		Final: ___/50

Specific Criteria (50/100)	Comments:	Mark:
		Final: ___/50

General Criteria	
Specific Criteria	
Final Mark	**_____ / 100**

Please feel free to make any comments on the Research Paper which might help to develop and maintain the objectives and learning outcomes for this component of the course.

Appendix 5: Regulations for Candidates on Submission of an MSc Research Paper

This document summarises the College's regulations and guidelines concerning the submission of Research Papers and outlines some requirements specific to the MSc in Interactive Digital Media. Candidates may want to consult the College's regulations independently.

1. **Methods of production**
   Use a computer/word processor. Color may be used in photographs, figures, graphs, etc.

2. **Typescript and illustrations**
   The type must be black and not less than 10 points. Use one-and-a-half or double spacing between lines and print on one side of the page only. The margin on the left-hand side of the page should be at least 2.54 cm.

3. **Pagination**
   The pages should be numbered consecutively throughout the research paper, starting with the first page and following the table of contents, including appendices but excluding photographs and/or diagrams not embodied in the text. The page numbers should be located centrally at the bottom of the page.

4. **Length**
   The Research Paper should be approximately 12,000 words (i.e., **no more than 40 pages** total, including all appendices assuming 12-point text with one-and-a-half spacing).

5. **Title page**
   Include a title page giving the following information in the order listed:

   - The full title of the research paper (as on the front cover) and the subtitle, if any (ensure that the title describes the content of the research paper accurately and concisely)

   - The full name of the author

   - The qualification for which the research paper is submitted (i.e., M.Sc. In Interactive Digital Media)

   - The name of the institution to which the research paper is submitted (i.e., University of Dublin)

   - The year of submission (e.g., 2024)

   An example title page is included as an appendix to this document.

6. **Declaration**

The Research Paper **must** contain the following immediately after the title page:

- a declaration that it has not been submitted as an exercise for a degree at this or any other University,

- a declaration that it is entirely the candidate's work (in the case of a research paper for which the work has been carried out jointly, there must be a statement that it includes the unpublished and/or published work of others, duly acknowledged in the text wherever included) and

- A signed statement stating that the candidate agrees that the Library may lend or copy the research paper upon request.

Example declarations are included as an appendix to this document.

7. **Acknowledgments**
Any acknowledgments should be on the page following the declaration.

8. **Summary**
A summary of the research paper, outlining methods and major findings, should be approximately three hundred words long and follow the declarations and acknowledgments.

9. **Table of Contents**
A table of contents should immediately follow the acknowledgments. It should list in sequence, with page numbers, all relevant subdivisions of the Research Paper, including the list of abbreviations, titles of chapters and their sections and subsections, the list of references, the bibliography, etc.

10. **Tables and Illustrative Material**
Lists of tables and illustrations should follow the table of contents. All tables, photographs, diagrams, etc., in the order in which they occur in the text, should be listed.

11. **Abbreviations**
A key should be provided on a separate page where abbreviations are used.

12. **References**
The research Paper must include systematic and complete references to sources used and a classified list of all sources used. The titles of journals preferably should not be abbreviated; if they are, abbreviations must comply with an internationally recognized system.

Ensure that citations and the corresponding references are formatted consistently.

Avoid citations to transient electronic sources (e.g., web pages) whenever possible. A citation to a web page should be used only where there is no alternative and where it can be guaranteed that the page in question will continue to be accessible in the future.

13. **Submission**

The Research Paper and Abstract must be uploaded to Blackboard before the submission deadline. Each should be submitted as a single PDF file in A4 page size. The abstract may be single-spaced and contain the title of the research paper and the author's full name as a heading.

The abstract must include the dissertation title and the author's full name as a heading and may be single-spaced. It can also be the same as the summary.

School Position on Use of GenAI

The School recognises the power, potential benefits and pitfalls of Generative AI. Its current stance on the use of GenAI for teaching and learning is as follows.

All use must adhere to guidelines published at the College level.

Specific guidelines for the use in final year projects and Masters level dissertations have been set out by the School and are published in all relevant handbooks.

A note on the use of GenAI within Ph.D. dissertations is being drafted.

For all other cases guidelines for use of Generative AI rests with individual Module Co-ordinators. Such guidelines can vary from module to module ranging from no use at all being allowed to unrestricted usage being permitted (subject to College regulations). In each case the student must seek specific module guidelines and adhere to them accordingly.

These guidelines will be reviewed on an annual basis.

Appendix 6. Author Declaration for Group Assignments

Assignment Number: _____

Module Number: _____

Title of Assignment:

Word Count: _____

Student Number	Student Name	Nature of Contribution	Percentage contribution

We have read and we understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at:

https://www.tcd.ie/calendar/

We have also completed the Online Tutorial on avoiding plagiarism *Ready, Steady, Write*, located at:

https://libguides.tcd.ie/plagiarism/ready-steady-write

We declare that this assignment, together with any supporting artefact is offered for assessment as our original and unaided work, except in so far as any advice and/or

assistance from any other named person in preparing it and any reference material used are duly and appropriately acknowledged.

We declare that the percentage contribution by each member as stated above has been agreed by all members of the group, and reflects the actual contribution of the group members.

Signed and dated:

_____   _____

_____   _____

_____   _____

Appendix 7. Assessment Submission Form

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

School of Computer Science and Statistics

Assessment Submission Form

Student Name	
Student ID Number	
Course Title	
Module Title	
Lecturer(s)	
Assessment Title	
Date Submitted	
Word Count	

I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at: https://www.tcd.ie/calendar/

I have also completed the Online Tutorial on avoiding plagiarism *Ready, Steady, Write*, located at **https://libguides.tcd.ie/plagiarism/ready-steady-write**

I declare that the assignment being submitted represents my own work and has not been taken from the work of others save where appropriately referenced in the body of the assignment.

Signed ……………………………………………………… Date ……………………………………………

Appendix 8. Title and Declaration Page Examples

<Title of the research Paper>

<Your name in full>

A research Paper submitted to the University of Dublin,

in partial fulfilment of the requirements for the degree of

Master of Science Interactive Digital Media

<Year of submission>

Declaration

I have read and I understand the plagiarism provisions in the General Regulations of the University Calendar for the current year, found at: http://www.tcd.ie/calendar

I have also completed the Online Tutorial on avoiding plagiarism 'Ready, Steady, Write', located at http://tcd-ie.libguides.com/plagiarism/ready-steady-write

I declare that the work described in this research Paper is, except where otherwise stated, entirely my own work and has not been submitted as an exercise for a degree at this or any other university.

Signed: _____

<Your name in full>

<Date>

Permission to lend and/or copy

I agree that Trinity College Library may lend or copy this research
Paper upon request.

Signed: _____

<Your name in full>

<Date>

Appendix 9. Timetable for Semester 1

Mon	10 am – 11 am	John Dingliana	CS7029 – Visual Computing and Design (Visual Computing)
	11 am – 12 pm	Nina Bresnihan	CS7026 – Authoring for Digital Media (Introduction to Web Authoring)
	12 pm – 1 pm	Nina Bresnihan	CS7026 – Authoring for Digital Media (Introduction to Web Authoring)
Tue	10 am – 11 am	Nina Bresnihan	CS7026 – Authoring for Digital Media (Introduction to Web Authoring)
	11 am – 12 pm	Eamonn Hall	CS7029 – Visual Computing and Design (Graphic Design)
	12 pm – 1 pm	Eamonn Hall	CS7029 – Visual Computing and Design (Graphic Design)
Wed	10 am – 11 am	Jack Cawley	CS7028 – Audio, Video & Sensor Technologies (Audio Technologies)
	11 am – 12 pm	Jack Cawley	CS7028 – Audio, Video & Sensor Technologies (Audio Technologies)
	12 pm – 1 pm	Weeks 1-3: Sam Davern Weeks 4-6, 8-12: Radek Przedpelski	CS7027 – Contextual Media (Game Studies and Design) CS7027 Contextual Media (Cultural and Critical Theory)
Thu	10 am – 11 am	Joris Vreeke	CS7025 – Programming for Digital Media
	11 am – 12 pm	Joris Vreeke	CS7025 – Programming for Digital Media
	12 pm – 1 pm	Joris Vreeke	CS7025 – Programming for Digital Media
	2 pm – 3 pm	Carol O'Sullivan	CS7044 – Research Paper
Fri	10 am – 11 am	Weeks 3-4, 12: Radek Przedpelski Week 1-2, 6-11: Sam Davern	CS7027 Contextual Media (Cultural and Critical Theory) CS7027 – Contextual Media (Game Studies and Design)
	11 am – 12 pm	Sam Davern	CS7027 – Contextual Media (Game Studies and Design)
	12 pm – 1 pm	Néill O'Dwyer	CS7028 – Audio, Video & Sensor Technologies (Moving Image for Digital Media Applications)