MCAST

MQF Level 6

CA6-03-21

B.A.(Hons) Game Art and Visual Design

Course Specification

Course Description

This degree has been developed in response to the increased demand for trained artists and designers who are able to produce rich, interactive experiences by developing conceptual visual graphics for digital games. Students will further their skills in traditional drawing and illustration - the basis for the eventual development of game art. They shall acquire grounding in essential art and design principles, as well as computer-generated design, and concurrently receive a basic knowledge of game theory, analysis and practice. This includes game design, psychology of play, UI, narrative study, digital imaging, 3D-modelling and animation. In their final year students will be encouraged to team up with those reading for the degree in Interactive Media, in order to create fully working games.

Programme Learning Outcomes

At the end of the programme the learner will be able to:

1. *Develop and prepare 2D and 3D assets for use in a game*

2. *Understand game design, theory, and gamer psychology*

3. *Work to a broad range of game design briefs within different contexts*

4. *Apply traditional and digital art principles and methods to game design briefs*

Entry Requirements

MCAST Advanced Diploma in Art and Design
or
MCAST Advanced Diploma in Graphic Design and Interactive Media
or
2 A-Level passes and 2 I-Level passes
Compulsory A-Level: Art, or Art and Design, or equivalent.

Other Entry Requirements

Applicants may be asked to sit for an interview and/or present a portfolio of their work.

Current Approved Programme Structure

Unit Code	Unit Title	ECTS	Year
CAART-506-1507	Drawing I	6	1
CAGDN-506-1503	New Media Culture & Technologies	6	1
CAWEB-506-1504	Introduction to UI & UX Design	6	1
CAART-506-1510	Visual Communication	6	1
CAIMA-506-1501	Contextual Studies in Interactive Media	6	1
CAWEB-506-1503	Introduction to Web Development	6	1
CAGDN-506-1504	Digital Media in Visual Arts	6	1
CAART-506-1514	Digital Media in Fine Art	6	1
CAGMA-506-1501	Multidisciplinary Storytelling & Narratives	6	1
CDKSK-503-1907	English I	3	1
CDKSK-503-1905	Critical Thinking I	3	1
CAART-506-1515	Critical Studies & Research Methods	6	2
CAGMA-506-1502	Psychology of Play for Gaming	6	2
CAGMA-506-1503	Idea Generation & Concept Art for Games	6	2
CAGMA-506-1504	UI Design for Games	6	2
CAGMA-506-1604	Game Engines I	6	2
CAGMA-506-1514	Game Design	6	2
CAGMA-506-1508	3D Modelling Foundations	6	2
	Year 2 Option*	6	2
CDKSK-604-1909	Entrepreneurship	4	2
CDKSK-602-1910	Intrapersonal & Interpersonal Skills	2	2
CDKSK-503-1908	English II	3	2
CDKSK-503-1906	Critical Thinking II	3	2
CAGMA-506-1507	2D Animation	6	3
CAGMA-606-1509	Production Modelling	6	3
CAIMA-606-1603	Game Engines II	6	3
CAART-606-1524	Personal Style & Self Promotion	6	3
CAART-606-1633	Law & Ethics	6	3
CAGMA-606-1511	3D Rigging	6	3
CAGMA-606-1512	Animation for Games	6	3
CAGMA-606-1513	Game Art Open Project	6	3
CADIS-612-1501	Dissertation	12	3
Total ECTS		**180**	/

*Learners are to choose one of the below options:

Unit Code	Unit Title	ECTS	Year
CAGMA-506-1506	Character Design	6	2
CAGMA-506-1505	Game Environment Design	6	2

CAART-506-1507 Drawing 1

Unit Level: 5

Credits: 6

Unit Description

This unit provides learners with the opportunity to explore drawing concepts and techniques with the aim of encouraging the development of a personal visual language of drawing. Learners will start practicing observational drawing techniques and will explore aspects such as perspective, composition, and mark making. They will be required to draw from various subject matter and will be encouraged to experiment with approaches to drawing and the use of drawing media. The unit will cover some of the various uses of the medium: drawing as a way of exploring ideas and of gathering information about a subject; a means of producing preparatory work; a medium which may be used to produce finished works of art.

Learners should also complete a personal project and are therefore required to develop a personal approach to drawing via the completion of a coherent body of work. Learners will be required to set their own aims, to evolve a technical means to achieve them and to evaluate the success of their approach both during the project and after completion.

Learning outcomes

On completion of the unit students will be able to:

1. *Use a variety of drawing techniques and media in response to a given subject matter.*
2. *Produce landscape drawings showing effective use of linear perspective and aspects of composition.*
3. *Investigate a subject matter of own choice to develop an independent work of art.*
4. *Present own work for constructive criticism and evaluation by own self and peers.*

CAGDN-506-1503 New Media Culture & Technologies

Unit Level: 5

Credits: 6

Unit Description

The world of Graphic Design evolves constantly due to rapid development in Science and technology, Culture and Social Changes as well as introduction of New Media and Materials. Only recently has Graphic Design passed through a great shift with the introduction of screen media, which drastically have changed the way we look at visual communication, and even initiating discussions and debates on whether this change will bring about the death of print.

From the invention of paper, to the introduction of the printing press, to the use of screen and interactivity, great steps in technology have brought about different disciplines, surfaces, materials, software, technologies and other advances that one has to consider in this line of work. As a graphic designer, keeping up to date with development and new technologies is essential in order to keep in line with the market as well as in touch with the consumer, viewer or even the partaker in today's interactive world.

This unit is intended for delivery as part of a group award or may alternatively be delivered on a stand-alone basis. The unit has a practical outcome and may be linked to work experience or simulation. It is intended to allow the learner to research, develop and apply theoretical and practical knowledge of new media, culture and technologies in the analysis and application of research, development, resolution and evaluation of a self-initiated project brief.

Through this unit learners will; explore current new media technologies and their cultural contexts within a chosen specialism such as: mobile app, web design, digital culture, gaming, online industries and communities, publishing and new technology, social networks and affinity spaces, the born digital audience and digital convergence etc. Through proactive activity learners will; investigate, evaluate and select new media technologies and their cultural contexts for a self-initiated project within their chosen specialism. They will prepare, plan and produce a practical new media project in which they are to explore unfamiliar waters giving them the opportunity to acquire new skills in new media and technology.

Furthermore, the unit allows learners to use relevant design processes and job flows to develop a range of creative solutions based upon vocationally relevant background research. The unit also provides the opportunity for learners to prototype and deploy their practical activity to a selected audience. The unit concludes by learners undertaking critical evaluation of the effectiveness of the technologies used in their project, its cultural contexts and its overall effectiveness and audience reaction.

Learning outcomes

On completion of the unit students will be able to:

1. Explain current new media technologies and their cultural contexts within a chosen specialism.
2. Plan and prepare a self-initiated new media project.
3. Produce and prototype a self-initiated new media project.
4. Evaluate the use of new media technology and the cultural context of the final outcome.

CAWEB-506-1504 Introduction to UI & UX Design

Unit Level: 5

Credits: 6

Unit Description

The aim of this unit is to introduce learners to the ever-changing concepts and theories of User Interface and User Experience Design. For starters, the learners will begin with the basic theories and concept in this field such as Layout, Visual Design, Branding, Wireframes, Usability Testing, User Research and User Stories and how to achieve them respectively.

Learners will examine a diversified portfolio of work, ranging from different platforms where UI/UX design is applied. These various examples of interfaces will be broken down into different case studies in order to understand better the concepts behind the creation of such experience designs. Elements in the design such as layout and visual design will be given a purpose while the experience of the user will be further discussed in relation of user research and user journey. Product Research will provide the learners with the ability to create good sound designs. Than basing on the results from the product research the learners will create Personas and Scenarios that will reflect the user group for whom they are designing.

The learner will then proceed to combine the concepts learned for both UI/UX together into a concept of their own. Starting off with sketches of layout designs which will then be translated into wireframes were the flow (UX) of the interface can be decided. The learner will then proceed to finalize the design on their software of preference (Sketch, Invision, Adobe Experience, Adobe Illustrator, Adobe Photoshop). The renders of the final design can be animated using the mentioned software for a better understanding of the User Experience as a final prototype.

Once the UI/UX concept is completed, the learner will evaluate the design through various methods of usability testing and experience walkthroughs in order to determine the effectiveness of their final design. This might lead to refinements in the design as deemed necessary.

Learning outcomes

On completion of the unit students will be able to:

1. Understand the basic concepts and theories involving UI and UX Design.
2. Prepare and build experience interfaces that are intuitive, pleasant and flowing.
3. Produce a prototype example that illustrates both UI and UX concepts.
4. Evaluate the created UI and UX Interface viability.

CAART-506-1510 Visual Communication

Unit Level: 5

Credits: 6

Unit Description

The ability to communicate effectively through visual means is one of the basic skills for anyone working within the fields of both Fine Art and Game Design. This unit aims to give learners the opportunity to acquire knowledge and understanding of the way visual media and the formal visual elements of line, space, shape, form, colour, value and texture can be manipulated to communicate ideas. Learners are asked to apply their understanding to the creation of their own body of work, making use of a range of fine art media, and exploring material and formal properties.

In this unit, learners will not be given specific instruction in individual media as this will be provided in other units. Learners will develop the competence to generate, select and develop ideas as well as gaining understanding of the complex relationship between thinking and making.

The unit will culminate in a self-directed project where learners respond creatively to a given brief and will than have the opportunity to present it to an audience. Evaluation of the audience response and of the effectiveness of the work will form the last part of the unit.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Analyse works of art to identify mechanisms of visual communication.*
2. *Generate, select and develop ideas in response to a given brief.*
3. *Organise formal visual elements in own work to communicate ideas to an audience.*
4. *Manipulate media and materials in own work to communicate ideas to an audience.*

CAIMA-506-1501 Contextual Studies in Interactive Media

Unit Level: 5

Credits: 6

Unit Description

Contextual Studies is a theoretical unit that enables learners to locate their own design practice in historical and social contexts. The evolution of design practice will be explored with reference to key events, significant figures and tendencies in the history of Graphic Design and Interactive Media.

Lectures which provide introductions to the content of each aspect of the course will be accompanied by seminars, workshops, discussions and screenings, which will enable learners to consider historical developments in relation to contemporary design practice, and their own work.

The unit compliments the practical, visual components of the HD Interactive Media course by providing an arena where relevant contemporary issues can be discussed in relation to historical developments. It aims to underpin and enrich the learner's visual practice by providing a secure grounding in key discourses in the evolution of design.
The analysis of specific design examples will be an important focal point, and the unit aims to deepen learners' understanding of formal visual language through close examination of historical and contemporary design practice.

Tasks which are set throughout the unit are intended to deepen learners' independent research skills.

The unit is assessed through learners' responses to 3 projects:-
1 A Reflective Research Portfolio which contains responses to tasks and evidence of learners' own research.
2. A group presentation focusing on the social issues arising from graphic design & Interactive Design practice.
3 - A visual case study/report on the work of one designer which locates it in a movement or tendency, and which contextualises the movement in relation to wider social events.

Learning Outcomes

On completion of this unit the student will be able to

1. *Present written and visual evidence of independent research into historical developments in graphic design and interactive media.*

2. *Collaborate with others to analyse historical graphic design practice in contemporary social contexts.*
3. *Demonstrate in a visual case study an understanding of how Graphic visual language and interactivity communicates meaning.*
4. *Communicate in writing a historically informed understanding of social issues arising from contemporary graphic design and interactive media practice.*

CAWEB-506-1503 Introduction to Web Development

Unit Level: 5

Credits: 6

Unit Description

This unit will provide the learner with the core technical knowledge needed to design and program a web application for a client such as a small business. The technologies identified in this unit are correct at the time of writing, but may be updated if significant new technology releases occur in the interim.

This unit will provide learners with the knowledge and practical experience they need to build and manage professional websites using the latest HTML and CSS mark-up, which can be implemented in future-rich web browsers on iPhones, Android Phones and WebOS Phones, thereby allowing learners to design and build websites that surpass desktop equivalents.

This unit is relevant to learners who have a basic level of competence in HTML and CSS, and wish to further develop their knowledge of web application development using HTML and CSS as tools to provide solutions to website design for both desktop and mobile devices.

Learners will begin by reviewing the key principles of good web design in relation to a number of objectives including market analysis and information architecture. Learners will then design a web application for use on a range of different platforms, which will require them to be confident in carrying out more advanced design techniques which addresses current accessibility guidelines. Using validation tools to test the web application, learners will then make recommendations for the future development of their product.

By the end of the unit, learners should have the underpinning knowledge and understanding to develop accessible web applications for both desktop and mobile devices.

Learning Outcomes

On completion of this unit the student will be able to:

1. Explain the principles of good website planning including target market, website objectives, navigation solutions, site structure, user interface and viewing platforms.
2. Produce a design specification for a web application to a given brief.
3. Implement a web-standards compliant web application to a given brief.
4. Appropriately test and review a web application.

CAGDN-506-1504 Digital Media in Visual Arts

Unit Level: 5

Credits: 6

Unit Description

This unit is both theoretical and skills based and will allow learners to demonstrate an understanding of digital literacy and production methods within the context of practical digital media project development. Learners will develop their understanding of how to work with colour in digital environments Screen vs Print, Raster vs Vector as well as developing a good knowledge of the issues associated with the display, storage and distribution of digital images.

Learners will produce research and evidence to demonstrate their understanding of the knowledge and skills for the unit. This understanding will then be contextualised within the context of a digital media project.

The unit is relevant to learners who wish to develop an understanding of how to create effective digital media project work. Although an introductory unit, it is recommended that learners should have a basic level of computing competency. Learners should be familiar with rudimentary research methodologies such as accessing information from libraries and making specific task orientated Internet searches.

Learning Outcomes

On completion of this unit the student will be able to:

1. Identify and analyse the digital colour theory associated with the use of digital media and technical requirements of Digital Media.
2. Identify and analyse the display, storage and distribution of digital media and experiment with digital media to generate a range of design solutions to a given Brief.
3. Present a finished solution to a given brief that demonstrate an understanding of digital literacy. Utilise raster and vector Software to create final outcomes to a given brief.
4. Evaluate a finished solution to a given brief that demonstrate an understanding of digital literacy and discuss final outcomes and record progress in the form of a technical Journal/Blog.

CAART-506-1514 Digital Media in Fine Art

Unit Level: 5

Credits: 6

Unit Description

This unit is intended for delivery as part of a group award or may alternatively be delivered on a stand-alone basis. The unit has practical outcomes and it is intended to allow the learner to undertake personal research into digital media software/applications suitable for use by a fine artist. Experiment with the features of a range of software/applications and use selected applications to develop their own fine art work. It is a student-centred project-based unit in which tutors acting as mentor provide through seminars and one to one tutorials, support for individual learner's practical activities which will include the use of online resources for identification, analysis and evaluation. Learners will also complete introductory tutorials for a range of selected software, produce digital sketch experiments using selected software and record their activity in a digital sketchbook/e-portfolio/blog. Based upon their investigative, evaluative and online learning activities learners will; identify a suitable topic/theme for their fine art work using digital media, produce a range of creative concepts using digital media and complete digitally mediated fine art work in response to their chosen topic or theme. Finally, learners will, based upon a presentation of their digitally mediated fine artwork to a selected audience, evaluate the overall effectiveness of their artwork and the effectiveness of the software/applications they used.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Conduct personal research into digital media software and applications in a fine art context.*
2. *Experiment with a range of proprietary software and applications.*
3. *Use proprietary software and applications to develop a fine art work.*
4. *Present and evaluate a fine art work made using digital media.*

CAGMA-506-1501 Multi-disciplinary Story Telling & Narratives

Unit Level: 5

Credits: 6

Unit Description

This unit considers the importance of narrative and storytelling in multimedia and art. Starting with an appreciation of traditional storytelling techniques, the unit content will go on to develop an understanding of how narrative techniques have developed over the years within literature, art, films and games. Narrative and interactive storytelling structures are now a key element in many art forms and media especially games and genres supporting player/viewer immersion.

The unit provides learners with the opportunity to develop knowledge and skills in storytelling and narrative structures and elements within contemporary media. This will involve critically analysing different approaches taken within a range of media.

The unit will introduce learners to the creative process of writing a narrative brief for a short sequence and using this as a basis to develop a narrative sequence prototype supported by a portfolio of evidence including storyboards and flowcharts.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Describe the historical relevance of storytelling techniques and the effect narrative has on the viewer in multimedia and art.*
2. *Identify narrative techniques, mechanics, structure and elements within a selection of media and interactive Story Telling techniques.*
3. *Create a brief for a short narrative related to a medium of own choice.*
4. *Produce a visual prototype of own created short narrative sequence brief, evaluating critically the narrative sequences and its structure.*

CAART-506-1515 Critical Studies & Research Methods

Unit Level: 5

Credits: 6

Unit Description

The unit is intended for use in a range of creative arts programmes and has both theoretical and practical outcomes in the form of personal research activity and the production of a proposal for a degree year dissertation.

The unit provides an overview of research theory and methodology, including primary, secondary, qualitative, and quantitative and practice led research methods. In addition to providing practical instruction on writing research proposals.

This unit also provide the learners with skills to critically analyse research findings and also see the differences between descriptive and critical writing as well as the accepted academic formats for writing essays, papers and reports using accepted academic referencing and citation systems.

In this unit, based upon lectures which present relevant content related to the creative arts theoretical contexts, learners will prepare and undertake practical activity in the preparation of a proposal for a vocationally relevant research study. Which will comprise of a planned literature review and the use of vocationally relevant methods to undertake primary research.

Learners will also undertake critical analysis of research findings and prepare written work to an accepted academic format using accepted citation and referencing. The work of the unit culminates in learners undertaking an individual self-evaluation of the effectiveness of their research processes and activity.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Organize the research gathered using research theory, methodology and practice led research for a potential dissertation topic.*
2. *Analyse critically the findings from own research and present it in an appropriate format.*
3. *Produce in given format the research proposals in academic writing style using accepted academic referencing and citation systems.*
4. *Present orally and in writing the final proposal for a vocationally relevant research study within own area of interest in the creative arts.*

CAGMA-506-1503 Idea Generation & Concept Art for Games

Unit Level: 5

Credits: 6

Unit Description

This unit will give learners the opportunity to become familiar with methods for generation of ideas within the photographic field. Learners will gain knowledge and understanding of creative thinking, exploration and development that are all related to photography. The unit emphasizes on how to; generate, develop, express, communicate, present and produce ideas outputted through the photographic medium. The unit will have three distinct parts: the first part concerning the use of effective research methods in the history of photography, the second part will focus on idea generation and visual representation of photography, and the third part will concentrate on the implementation and evaluation of ideas related to the photographic genre. An emphasis is placed on the exploration of ideas using a range of photographic techniques and the effective presentation methods of ideas and solutions.

The development of ideas is an essential skill for a wide range of creative fields however the unit deals with the development of this skill in a generic way. This will enable the delivery of this Unit to be contextualised for the photographic discipline.

The unit will develop the individual's knowledge of research methodologies and help refine it through practical experience and also enable learners to draw upon research to formulate and explore ideas in the photographic field.

Using reproduced real-life situations; learners will be given an opportunity statement, which will serve to define the goal of the idea generation task ahead of the learners.

On completion of the Unit learners will gain knowledge and understanding on how to generate ideas and develop skills in the synthesis and presentation of those ideas to an appropriate audience that is an audience targeted to photography.

Learning Outcomes

On completion of this unit the student will be able to:

1. Use research methods to effectively gather information about history of photography, various techniques and ideas used in photographic medium.

2. Use idea generation techniques to explore and develop ideas and concepts related to photography.

3. Use visual methods to communicate and present ideas and concepts to an audience targeted towards photography.

4. Produce a creative photographic project and evaluate the process.

CAGMA-506-1505 Game Environment Design

Unit Level: 5

Credits: 6

Unit Description

This Unit is designed to provide learners the opportunity to develop visual ideas and concepts as part of an art or design process through developmental drawing. The unit is also intended to enable users to acquire an understanding of underlying concepts and fundamental principles involved in digital gaming planning and design.

The Learners will acquire experience by researching and exploring developmental drawing, to a given brief. They will further develop drawing ideas and demonstrate a clear understanding of different digital gaming platforms and related technologies. The learner will learn how to recognise and distinguish differences in numerous gaming platforms, environments and genres.

Learners will be introduced to fundamental methods used in the planning and design stages involved in the production of a digital game. They will demonstrate the ability to identify planning and designing elements within the production of a digital game. The learner will then demonstrate an ability to effectively plan and design a level in a digital game.

Finally, learners should have the underpinning knowledge and understanding in fundamental methods used in the planning and design stages involved in the production of a digital game.

Learning Outcomes

On completion of this unit the student will be able to

1. *Research and investigate visual, written or spoken source material to a given brief through exploratory developmental drawing.*
2. *Demonstrate a clear understanding of different digital gaming platforms and related Technologies.*
3. *Demonstrate an ability to identify planning and design elements within the production of a digital game.*
4. *Demonstrate an ability to effectively plan and design a level in a digital game.*

CAGMA-506-1506 Character Design

Unit Level: 5

Credits: 6

Unit Description

In the world of character designing one must start by understanding the principles of character generation through research and practice. To improve their abilities and knowledge learners will go through a series of analysis of other popular international artists' artwork. Thus this adds to them more knowledge on constructive criticism. Understanding and appreciate others work is crucial for every artist to develop his/her abilities and own character.

In this unit learners will have the opportunity to explore approaches relevant to the creation of successful character designs which can be applied to games. Learners will have the opportunity to become aware of a variety of character creation challenges which will give them the opportunity to practice multiple skills. Learners will explore 2D and if possible, also 3D media, become more practical in handling traditional and digital tools, as well as researching styles and influences.

Finally, learners will learn how to produce a character design prototype which meets professional standards. In addition to this learner will also develop the ability to achieve increasingly unique concepts as well as independently assess the quality of their own work by producing a portfolio with a reflection statement. The portfolio should consist all development of the character brought forward; from the beginning till the final stages. While the reflection statement should show the improvement of the learner throughout the unit; this time, academically. In the reflection statement, the learner should include both content list and a Bibliography. This exercise should definitely improve their way in analysing their own work compared with others.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Outline the history of character generation for games and the foundational approaches to creating compelling, unique characters.*
2. *Understand the fundamental principles, proportion and structure of character design and styles.*
3. *Create the design of a character according to a given script.*
4. *Produce and evaluate a finished character design up to professional standards.*

CAGMA-506-1507 2D Animation

Unit Level: 5

Credits: 6

Unit Description

Encompassing various artistic fields used across different media, animation is the medium of expression and communication that enables artists to combine various disciplines into a unique and possibly interactive art form. 2D Animation can be as intimate and personal as a stick figure at the corner of a flipbook, or as expensive and public as animated laser lights splashed upon a cityscape.

Building on the artistic skills gained in previous units, this content is designed to introduce the learner to the knowledge and skills involved in the design and production of two-dimensional computer animation.

They will gain a basis on its fundamental principles and techniques, along with a basic outline of the relationship between cell and computer-generated animation. Following a careful collection of visual references detailing character style and motion, the learner will pursue the creation of 2D animations for use in games. They will correctly design and construct two-dimensional resources within a current software program, and carefully test the outcome on the target medium.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Explain the basic principles of current 2D animation styles and techniques.*
2. *Produce visual references for the creation of a complex character or object animation.*
3. *Produce complex animations for use in a commercial game.*
4. *Assess own final product through a visual demonstration.*

CAGMA-506-1514 Game Design

Unit Level: 5

Credits: 6

Unit Description

Due to their accessibility and diversity, games have become an integral part of popular culture. Interest in game design has experienced an explosive growth, where creators seek to express themselves, socially engage with others, and incite learning and critical thinking through imaginative solutions. There are various tools and techniques available to game designers, which aid in making their games creative, compelling and profitable. This unit covers a practical approach to the theory behind the design of engaging games.

This unit encourages the learner to develop the core analytical skills to deconstruct successful games, while understanding the concepts that make them appeal to their audience. Learners will analyse different game genres in detail, learn how to recognize differences in rules and conventions, and subsequently apply them to develop new games or modified variants. All analysis will base on the fundamental theories of game design, defined by the formal and dramatic elements of gameplay.

Individual research skills will be encouraged through various analyses on historical and contemporary games, with focus put on determining what has made them successful. Research may also include an investigation of technological developments that have enabled changes in traditional game design, to give better or more portable gameplay.

Being at the centre of their experience, the learner will oversee choosing their own areas of interest for research. This element of choice will allow them to focus on games they know well, genres they particularly like, and games that inspire them. Their skills will be challenged with comparative and evaluative work, critical report writing, and the development of a game or modification to put the established theory into practice.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Deconstruct existing games to determine effectiveness.*
2. *Produce a new or modified game concept based on documented theories.*
3. *Develop a game concept supported by design theories and peer feedback.*
4. *Assess own work in view of the outlined game theories.*

CAGMA-506-1508 3D Modelling Foundations

Unit Level: 5

Credits: 6

Unit Description

3D computer-generated art is a versatile practice, which has transformed numerous disciplines, including computer games, filmmaking, architecture, and product design. Despite the variance of its outcome, the fundamental basis of 3D production is identical across all media. This introductory Unit aims to teach its underlying concepts, techniques and developments in the production of high-quality 3D content.

By carefully researching the applications of 3D computer-generated art in different media, learners will acquire an understanding of the basic principles of current 3D modelling. With the fundamental theory at hand, they will be exposed to first-hand experience on the processes used to build a variety of 3D models for different purposes. Throughout their development, learners should ultimately be able to: create objects, manipulate meshes, set up UV maps, apply materials and texture maps to their work, set up the appropriate lighting and cameras, and create high-resolution renders to distribute their work.

The output used for this Unit can be paired with others within the same semester to give purpose to the learner's work.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Investigate the implications of 3D modelling within a commercial setting.*
2. *Assess sources for the creation of 3D computer models to a defined concept.*
3. *Create textured 3D models for a virtual environment.*
4. *Prepare source files for use in a commercial product.*

CAART-606-1524 Personal Style & Self Promotion

Unit Level: 6

Credits: 6

Unit Description

Understanding personal style and developing a self-promoting image is fundamental to anyone who aspires to work in the creative arts sector. It is easy to rest in the safety of a familiar style and such a unit will inspire learners to push their boundaries, leave their comfort zone and develop new styles of work with a range of different media, then use these to design a campaign of self-promotion across a range of platforms.

This is a practical unit that enables learners to explore a personal response to different styles using a wide range of media in a wide range of outcomes that culminate in a body of work that serves as a self-promotional tool and promotes the learner within the creative arts sector by helping him/her build a broad skill set. Learners will have the possibility to achieve the latter through research, experimentation with different media and also the development of their own self-image. The unit also aims to develop skills to communicate a personal style and explore ways of creating a self-promotional tool and portfolio of work.

The unit compliments the visual components of the course by creating a vehicle in which to showcase work and act as a portal to the learners' self-image. Throughout their courses, learners should already have investigated a specialism with an individual style of expression and visual outcomes. Learners will explore a broad range of media to communicate a range of messages in a contemporary context. Learners will be encouraged to experiment and explore the limits of their preconceived notions and their abilities. Contemporary styles in visual communication will be seen in context and learners will be encouraged to work towards their continuous progression in the understanding of their own self-image.

Learner's preconceived ideas about their personal style should be challenged. In a world where new forms of communication constantly change and where a sophisticated audience demands new approaches, the development of personal style should be seen as a continuous activity. It is important that learners experiment with different media both in print and digital to test their enthusiasm for a particular style.

By the end of this unit, learners would have produced a sequential portfolio of work that demonstrates a willingness to experiment with different media and develop the promotion of their own identity as someone working within the very competitive creative arts sectors. Learners should also test their own convictions in the style they lean towards and in their ability to use it to communicate a wide range of messages to different audiences.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Research the historical origins of a chosen personal style applied to a contemporary context.*
2. *Select a specialized medium or media to create a self-initiated project in a contemporary context.*
3. *Determine own identity and personal visual style when creating self-promotional material.*
4. *Compile a professional portfolio of work specific to chosen career path in the creative arts industry.*

CAART-606-1633 Law & Ethics

Unit Level: 6

Credits: 6

Unit Description

In this unit learners will have a first approach to law and ethics and to their applications to art and communication.

They will have the opportunity to have a sight of what is law, what are juridical systems, how to compare them and what are their historical roots. They will be guided into juridical concepts like “rule of law”, “right” and “source”.

They will then apply the juridical approach to their activity. They will learn how their activity can be labelled from a juridical point of view, then work on the right of expression and its juridical and factual limitations. Then they will work on copyright and defamation.

In addition to this, learners will have the occasion to approach ethics. They will work on some ethical concepts like “good” and “bad”, “right” and “wrong” as well as approach some ethical systems. Thus learners will realize how one can know or decide that something is good or bad and focus on some contemporary ethical issues.
Moreover, learners will also apply the ethical approach to their activity. They will explore their personal ethical system and discover their inner values, working on them and also on the influence that ego and emotions have on them. Finally, learners will then identify possible ethical issues in their activity and in team working.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Understand what is a juridical point of view in relation to work in the different sectors of the creative arts.*
2. *Understand the definition of an ethical point of view in relation to various areas of the creative arts.*
3. *Identify possible juridical problems related to own area in creative media.*
4. *Choose which ethical approach to use in relation to own creative media area.*

CAGMA-606-1512 Animation for Games

Unit Level: 6

Credits: 6

Unit Description

Animation is a fast-growing industry in the arts, design, media and entertainment. Starting from early television, cartoons and films, animation can now be found in computer games, mobile games and applications, advertising, e-books and web articles, in advertising and the fine arts.

Although the basic principles of animations are consistent in most animated projects, animation techniques will change according to platform and whether or not the project is employing 2D or 3D animation. Exporting files for animations will also change according to weather an animator is exporting for a game, for a short film, or for an animated gif.

This unit will introduce learners to both 2D and 3D animation principles and techniques. Learners should first be introduced to traditional principles of animation, where they can understand the concept of timing, narrative, movement and many other principles through hands-on exercises, drawing and observation. Learners will then become familiar with the 2D and 3D animation software interface and a range of tools within the software package. In the second half of the unit, learners will be required to create an animated sequence in 2D or 3D animation, or a combination of both. In this outcome, learners can be allowed to be more creative in the subject of their animation, however they must still show evidence of proper use of animation principles and techniques.

By the end of this unit, learners should be able to show evidence of both 2D and 3D animation techniques through a variety of technical exercises and an industry-standard creative animated sequence produced to a brief.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Describe the production pipeline in contemporary 2D and 3D animation.*
2. *Use effectively a variety of 2D and 3D animation techniques and principles.*
3. *Produce a creative short animated sequence for a particular platform.*
4. *Export and evaluate an animated show reel up to industry standards.*

CAGMA-606-1513 Game Art Open Project

Unit Level: 6

Credits: 6

Unit Description

Gaming has become increasingly popular over the years, with the concept of gamification spreading from education to business and gaming itself becoming not just a children's or a teenager's hobby but a growing industry that is enjoyed by all ages. Digital gaming has evolved tremendously since its inception and now incorporates areas like console gaming and PC gaming, mobile games, educational games and e-gaming/betting games. The industry of game art itself is vast and depending on whether an artist is working for an AAA game developer or a betting company, they would need very specific skills.

Game Art learners might find themselves working in the art department such as: creating concept artwork, designing characters and backgrounds, animating assets or creating visual effects, doing graphic design and illustration work within a game studio, as well as designing the Game GUI, which is a widely popular band of game art that should be given particular importance in this Unit since it could offer better employability prospects to learners. Learners will therefore have the opportunity to identify which area in Game Art they would like to specialise in to then develop a project that is tailored to it. This is a Unit that would benefit from group work, where each learner can focus on their area of specialisation and work towards a larger project. It would also be interesting for Game Art students to work with Interactive Design students to create a more holistic project, and possibly even a fully working game.

Since the Unit will be learner-driven, tutorials might not be necessary because each learner will require specific training. Nevertheless, it is essential that The word 'open' is key to this Unit, as it should allow learners to creatively interpret the design brief rather than be dictated the specifics. In this unit learners will also have the possibility to identify specialist software and do the required training to produce their open project. To achieve this, learners would need to state how they plan to acquire this knowledge though a proposal.

Learning Outcomes

On completion of this unit the student will be able to:

1. *Identify game art projects related to a specific area of personal interest.*
2. *Develop a proposal for a creative game art open project.*
3. *Produce material for the open project using specialist skills.*
4. *Present the game art open project to stakeholders, and critically evaluate the response and own performance.*

CAGMA-506-1502 Psychology of Play for Gaming

Unit Level: 5

Credits: 6

Unit Description

The purpose of this unit is to gain insight into the psychological concepts related to play and player experience. Learners will study the various definitions of play, the basic concepts of psychology and then specifically focus on psychological concepts which have been applied to play and gaming throughout the years. These theories will then inform the students' design of a mini game, which will be tested on a number of players.

First, the learners will cover various definitions of *game* and *play*. Particular emphasis will be placed on how the definitions of play in themselves incorporate various elements of psychology. Learners will also grasp the basic concepts and aims of psychology, and will be introduced to a number of psychological studies done on games and players.

Learners will then go on to study a number of play related psychological concepts which have been vastly studied in relation to games, such as immersion, flow, presence, self-presence, motivation & reward, mental models and cognitive strategies. User navigational patterns could be investigated, as well as ideas of cognitive load, user expectations, feedback, and multiple intelligences. Gameplay psychology will be related to the learner in a way that could potentially relate to their life, education, and creative endeavors.

The theoretical foundations of the unit are then put into practice in the second half of the unit. Learners will first utilize a psychological concept of their choice and analyse their use in the formal elements of games. Furthermore, they will have the opportunity to observe how elements of play can have possible long lasting effects on a player's cognitive development.

Finally, learners will have the opportunity to design a mini-game that is informed by psychological concepts mentioned in class. Although learners are not expected to perform a psychological study on the players through the game created, they will have the opportunity to interview the players to witness how the planned techniques have been experienced by the players.

Learning Outcomes

On completion of this unit the student will be able to

1. Describe essential elements and concepts of play and psychology.
2. Explain psychological theories related to gameplay.
3. Analyse psychological concepts in the design of games and player experience.
4. Design & evaluate a game informed by psychological concepts and collect feedback.

CAGMA-506-1504 UI Design for Games

Unit Level: 5

Credits: 6

Unit Description

The purpose of this unit is to understand and apply the principles of design in the context of developing User Interfaces for computer games. Learners will begin with the basics of User Interface design, including such topics as layout issues, typographical concerns, and the proper use of colour in the design.

A variety of user interfaces will be examined, with respect to the variety of platforms on which games are played, from laptop and desktop computers to mobile devices such as tablets and phones. The principles of user interaction will be explored, including concepts such as gestural interfaces, and experiential design. Actual examples of user interfaces will be examined with these principles in mind.

The learner will study prototyping techniques from low-fidelity sketches to concrete UI prototypes produced using specialist software. This will culminate in the learner being assessed on their production of a User Interface design prototype for a computer game. This design should embody the principles of User Interface design as covered previously.

Once the User Interface design is completed, the learner will ensure that the interface is logical, intuitive and clear, by undertaking an evaluation of the design, employing such techniques as Usability Testing or cognitive walkthroughs, to determine the effectiveness of their design, and refining it where necessary.

Learning Outcomes

On completion of this unit the student will be able to

1. Explain basic concepts of User Interface design.
2. Evaluate different user interfaces for a variety of games and applications across a number of different platforms.
3. Create a user interface prototype.
4. Evaluate the usability of the interface.

CAGMA-506-1604 Game Engines I

Unit Level: 5

Credits: 6

Unit Description

Throughout the development of this introductory unit, learners will acquire hands-on experience in the creation, prototyping and release of 2D and 3D games on computers and mobile devices. Using one of various game engines available on the market, learners will gain knowledge on the specifications and resources required to create a commercial game.

Learners will be encouraged to explore a variety of 2D and 3D engines on the market, to familiarize with the common tools and components available in the industry. These features may include level editors, scripting methods, cinematic tools, manipulation tools, and User Interface tools. With the necessary knowledge in place, the learner should then be encouraged to create various game prototypes with the intent of exploring a game engine's toolset. These projects should help the learner identify reusable code and game assets where appropriate and explore innovative approaches to game mechanics.

Once the process is defined, the learners should undertake the development of a functional game or level to maximize the learners' output and experience, this unit should be linked with other game-related units, particularly: **Game Design**, **Psychology of Play for Gaming**, **3D Modelling Foundations**, and **Artificial Intelligence for Interactive Media**.

Learning Outcomes

On completion of this unit the student will be able to

1. Conduct research about the use of game engines in real-world projects.
2. Prepare workspace and assets for game development.
3. Assemble a game level using standard tools within a game editor.
4. Build and deploy a game project to a chosen platform.

CAIMA-606-1603 Game Engines II

Unit Level: 6

Credits: 6

Unit Description

This Unit is designed to follow the practices covered in **Game Engines 1** and related Units, by enabling a group of learners to team up and create a complex digital game.

Learners will start by undertaking research into the structure and conventions of a game development studio. By observing a tailored approach to the creation of games, they will build a realistic expectation of the practices used within the industry. With a design brief at hand, learners will be required to team up and plan the creation of a new digital game. They will be encouraged to identify their strengths, take up a role within their team, and work together to plan and produce a concept of their choosing. They will be encouraged to decide all facets of their development, including which game engine or design software to use, as well as the standards they wish to operate with.

With a viable project plan at hand, each member of the team will take responsibility to produce high-quality and functional work according to their roles. For instance, learners working as 3D artists will not only create game models but will package them and provide the basic code to prepare them for use. Through this method, learners will experience the process of developing a game as a multidisciplinary team and learn from each other's strengths.

While creating their game, learners are encouraged to maintain and optimize their resources to the make the best use out of a computer's capabilities. Through this practice, learners should learn to observe their work, and improve it until an effective solution is reached.

Learning Outcomes

On completion of this unit the student will be able to

1. Recognise the industrial roles and practices in game production.
2. Formulate documentation supporting the creation of a digital game within a team.
3. Produce complex mechanics and visual effects with relevant game engine resources as part of a game development team.
4. Evaluate in a reflective manner own finished game up to industrial standards.

CAGMA-606-1509 Production Modelling

Unit Level: 6

Credits: 6

Unit Description

Environment design and production is a more varied and prolific core aspect of commercial games and interactive media activity than ever before. As hardware and software capabilities and features continue to push boundaries of expectation and possibility exponentially it becomes ever more crucial to ensure that an increasingly high standard of new entrants are delivered to industry with a healthy balance of creative and technical skills.

As any experienced 3D professional will acknowledge as, if not more important to the likely hood of success in this industry is a confidence in communication skills and the ability to accurately identify and interpret a clients' requirements and expectations as well as the skills required to negotiate these.

All of the skills and application of knowledge involved take time to learn and practice. This unit has been developed to provide candidates with a safe learning environment that straddles education and industry practice so that they can begin their journey in honing these skills such that it should provide potential for a gradual transition to professional practice whilst also developing specialist skills.

Technically and creatively this is a very broad specialism. Whilst this unit provides an opportunity for learners to explore and further develop their practice in a manner tempered, to an extent, their own individual approach to balancing design and production it is intended mainly to provide them with an opportunity to develop or add to fundamental modelling, texturing, and lighting skillset in a manner focused on their clients' needs as priority over their own personal ambitions.

Learning Outcomes

On completion of this unit the student will be able to

1. *Understand a variety of processes and software that can be utilized to create 3D environment assets for game engines including key approaches to creating geometry, UV layout, texturing, and lighting.*
2. *Liaise with a client demonstrating ability to accurately interpret a given brief or game design document through application of research, idea generation and development leading to client sign off of proposed developed environment design solutions.*

3. *Demonstrate skills required to apply this knowledge and understanding by creating appropriate textured and lit models economically in response to a game design document.*
4. *Present outcomes to client with working interactive prototype using open-source game engine or equivalent engine provided by client.*

CAGMA-606-1511 3D Rigging

Unit Level: 6

Credits: 6

Unit Description

Character rigging is a highly technical process. No 3D character, for whichever platform can be brought to life without it. There are crucial conventions that must be followed to achieve good results.

Whether choosing to be a 3D generalist or a specialist rigger, the level of knowledge and understanding concerning the character rigging process and application that will be developed from undertaking this unit will provide a strong starting point with an understanding of the principles of 3D Rigging and Animation that can be transferred to aid a working knowledge of 3D character rigs of a variety of complexities.

This unit provides a solid foundation in character rigging skills from design concept to the development and construction of a digital 3D model which applies the correct use of rigging, ready for animation. On completion of the unit the learners should not only be able to reproduce this learning, but also be aware of and understand the reasons why these systems and techniques work the way they do. This provides the potential to adapt and refine the techniques flexibly to suit a wide range of 3D character rigging requirements for animation.

Learning Outcomes

On completion of this unit the student will be able to

1. *Describe the animation design and production pipeline.*
2. *Develop a concept for a simple 3D animation in response to own interpretation of a given brief.*
3. *Produce a simple rendered character animation using an independently created rig.*
4. *Evaluate and discuss the effectiveness of the rig used.*