CG ANIMATION & VFX

TRIMESTER 1 - Bachelor & Diploma units

ANIMATION FOUNDATIONS
→ Production 1

This unit will introduce students to the fundamental principles of 3D animation. It focuses on the strong foundations and principles of 3D Animation core skills to becoming a professional Animator. This subject will allow students to build solid skills and assets for their portfolio and continue into more advanced areas.

3D MODELLING FOUNDATIONS
→ Production 2

This unit aims to introduce students to working in a 3D Modelling. It will allow students to form a solid conceptual understanding of 3D practice from interface navigation, modelling concepts, and industry workflows. Students analyse existing prop and environment modelling techniques to develop a pipeline of tools and methods in their work.

INTRODUCTION TO INDUSTRY: VFX PIPELINE
→ Business & Industry

This unit breaks down each element and phase of the VFX pipeline from storyboarding, through conceptual stages, pre-visualisation to production and final compositing. Pre-Production, Production and Post Production. Students study each phase of the production pipeline and choose a specific step to analyse. This unit also explores iterative creative loops in relation to an existing contemporary production.

CRITICAL THINKING
→ Theory

This subject introduces students to critical thinking and communication skills which empowers students to apply these skills to their studies. Critical thinking can involve making judgments and evaluations to distinguish fact from opinion, making informed opinions, assessing the validity of a theory, and application of theories to practical situations.

TRIMESTER 2 - Bachelor & Diploma units

PHYSICAL ANIMATION
→ Production 1

This unit moves students into aspects of physical animation with a focus on important concepts such as employment of convincing weight, timing and spacing into real-world animation scenarios. Through a series of physical shot briefs, students build on previous analysis to create a range of cycles and action pieces. Students investigate different rigs for usage in physical shots and employ techniques to cater for different attributes for each rig.

CHARACTER & ENVIRONMENT MODELLING
→ Production 2

In this unit, students establish the pros, cons, and limitations of various software to generate various character concepts from different scenarios. Students learn to analyse characters from media, break down the main elements, create low poly character work from concept, and to sculpt high-resolution creatures and characters using photographic reference. They also learn model optimisation for animation and rigging for animation.

PRODUCTION DESIGN / ART DIRECTION
→ Business & Industry

This unit introduces students to production design/art direction, the role of the production designer/art director, and creative methods used to design for animation and VFX projects. Students learn industry best practice techniques for developing concepts in an iterative manner. Emphasis is on research and inspiration, production of mood boards and drawing.

ANIMATION HISTORY
→ Theory

The unit offers students the opportunity to encounter a wide range of historically significant animation. Students learn how to analyse the aesthetics, filmmaking styles, and techniques of various productions. Students will be able to articulate the manner in which animation has evolved throughout its history in terms of technology, aesthetics, and cultural contexts.

TRIMESTER 3 - Bachelor & Diploma units

VFX PRODUCTION
→ Production 1

In this unit, students are tasked with investigating and employing a chosen area of visual effects into their creative folio. By studying techniques, to producing simple yet effective VFX elements and to complement their existing creative work, students can broaden their understanding of the context of animation work in production by adding basic particle, smoke, or similar elements to explore other domains of 3D work.

GAME PRODUCTION 01
→ Production 2

This unit introduces students to the use of game engines in production. Students move into publishing work in a playable form. Through a basic analysis of how game engines function, they can modify existing workflows to cater to a chosen platform to enhance their creative work. This unit takes all the student has learnt up to this point and applies it within a real-time engine (UNREAL), importing animations and VFX to create a production quality product.

PORTFOLIO BUILDING
→ Business & Industry

This unit provides a framework for animators and VFX artists to consider how best to collate and compile a professional portfolio. Students begin compiling a portfolio and understand what constitutes meaningful evidence of their achievements, and how to structure a portfolio to best represent their professional development and showcase their creative offering.

GAME HISTORY
→ Theory

In this unit, students have the opportunity to investigate the beginnings of game production and its roots in culture. Through studying the origins of video games, students will be able to understand the context of their creative digital work which will better inform their practice. Students will play through games and explore the mechanics of gameplay during class sessions to better inform decision making around their game design.

TRIMESTER 4 - Bachelor only units

LIGHTING 01
→ Production 3

This unit offers students an opportunity to collate rendered images into real-world footage and visual effects. Starting with the underlying theory and vocabulary of the history of compositing, students analyse the techniques used to create visual effects shots for film and television. Using high-end software, students will learn lighting and camera techniques to effectively compose dynamic and appealing visual effects shots.

DIGITAL SCULPTURE & TEXTURING 01
→ Industry & Enterprise ELECTIVE

This unit covers the knowledge and skills of more traditional sculpting techniques using digital media. Clay modelling software work allows students to examine traditional techniques of sculpture. In this unit, students explore the technical aspects of sculpting, and deconstructing techniques and workflows to best create their chosen concept. Using high-end software, students also learn lighting and camera techniques to effectively compose dynamic and appealing visual effects shots.

ACTING FOR ANIMATION 01
→ Animation ELECTIVE

This unit introduces students to the foundations for acting in digital animation. Through a series of exercises, students can develop an understanding of the physical and psychological attributes of character and the ability to apply these factors in their animation work. Using high-end software, students also learn lighting and camera techniques to effectively compose dynamic and appealing visual effects shots.

VFX SIMULATION 01
→ VFX ELECTIVE

This unit delves into the world of creating foundational visual effects using sophisticated industry-standard software and techniques. Students begin exploring rigid body and volume-based smoke and fire simulations and the basics of physical factors affecting visual effects in a simulation environment. Using high-end software, students also learn lighting and camera techniques to effectively compose dynamic and appealing visual effects shots.

STORYBOARDING & CINEMATOGRAPHY
→ Theory

This unit introduces students to the use of storyboards in visual storytelling for animation and VFX projects. Students develop knowledge of drawing, staging, camera angles, framing, transitions, timing and editing. It includes an overview of cinematography and also discusses the creation and use of animatics.

TRIMESTER 5 - Bachelor only units

GAME PRODUCTION 02
→ Production 3

In Game Production 02, students explore the usage of game engines for multi-step based workflow. Deploying their digital projects for use in a playable game, students can broaden their understanding of the workflow of publishing work in a sophisticated production engine, allowing their newly created work to function in an AAA game environment.

ACTING FOR ANIMATION 02
→ Animation ELECTIVE

In this unit, students focus on convincing dialogue and facial animation, illustrating the physiological attributes and motives of a character through understated motion. Work will focus on constructing emotive origin for each motion. An emphasis is given to characterising the motivations of a given animation piece in written form, rough storyboarding, and filming reference footage.

VFX SIMULATION 02
→ VFX ELECTIVE

Students delve into complex simulation looking at elements like wind, fire, fluids and more environmental forces. Students develop rigid body simulations, combined with particle simulations to create completed and multi-faceted FX scenes. This layering of effects relies heavily on visual reference, where students must analyse real world footage to inform a believable FX shot.

SCREENWRITING
→ Theory

The unit offers students an overview of concept creation and how to generate stories. Students examine elements that constitute effective storytelling. Through the development and pitching of an original concept, students gain insights into how the role of writer as story artist contributes to the development of scenarios. Students examine how an audience's engagement is impacted by the writer's creative choices such as point of view and genre.

CAPSTONE DEVELOPMENT
→ Industry & Enterprise ELECTIVE

This unit commences the research and pre-production planning of the student's capstone project, to be submitted at the end of the course. Building upon the technical and theoretical learning the student has gained across the course, with an emphasis on successful completion of specific development and pre-production tasks. In the first weeks, students generate and refine ideas for their project and are expected to participate in regular feedback sessions with the unit coordinator. The unit is designed for students to begin the development of a significant Animation or VFX project that showcases the progress and development of their skills and ideas in their chosen field.

TRIMESTER 6 - Bachelor only units

A&VFX CAPSTONE PROJECT
→ Theory 2 / Industry & Enterprise

This unit is the culmination of the student's journey, crafted into a final industry project. Building on their work in Capstone Development, student execute a project through planning, research, development, knowledge and skills they have developed during their studies. They will have the opportunity to further enhance their specialist skillsets through mentoring and masterclasses; to completing a major Animation or VFX project, which will form the centre piece of their graduate showreel.

CAREER & PORTFOLIO DEVELOPMENT
→ Production 3

Students develop their ability to critically reflect on their career direction in the field of animation and visual effects and to continue to develop their portfolio, showreel and professional profile for work opportunities. They develop a career plan, make contacts within their field and present examples of their work in a professional format. Students are required to consider their strengths and demonstrate an understanding of where their skills fit within the industry. Students will research and identify relevant companies and individuals, whilst refining their professional communication skills to network with industry contacts.

ELECTIVES: Students may select one of the elective streams

INDUSTRY PLACEMENT
→ ELECTIVE

Students are to complete an industry placement related to their discipline. Students will consider their own strengths and weaknesses, knowledge, skills, and abilities when placed into a professional work situation; providing students a chance to reflect on their development towards achieving articulated Collarts' graduate attributes and their own employability skills.

Students will be involved in the day-to-day activities of a chosen workplace where they will have the opportunity to apply some of the theoretical knowledge and practical skills that they have developed during the course. While it is a stand-alone unit, it aims to provide students with practical experience that follows on from previous study.