

ADVANCED DIPLOMA IN VIDEO GAMES DESIGN

Awarded by : Raffles Singapore

Intakes : January, April, July, and October

Duration : 1 Year and 6 Months (Full-time)

Core Modules

<p>2D Games Design</p>	<p>Learning about the concepts and techniques of the traditional 2D format provides students an in-depth understanding of the relationship between interaction and art and lays bare the tenuous relationship between video game form and function, art production and computer programming. In addition to observing industry best practices, students in this module learn about the history of the classic 2D video game and the state of 2D development today, to understand commonly used gaming terms and plan a video game production, understand the basics of the 2D video game design, and how to create their own art assets to be synthesized into a unique interactive video game of their own design.</p> <p>Credit Points: 10</p>
<p>3D Character Animation</p>	<p>This module allows the students to further develop their knowledge and skills on their 3D character design modeling and animation and to bring the illusion of life to the animated characters. Students will learn high-level animation tools to gain insight into professional animators approach on character animation creating effective poses, conveying personality, emotion, expression and attitude. At the end of this module students are able to create character animation with professional staging and planning of the character animation within a scene.</p> <p>Credit Points: 10</p>
<p>3D Character Modeling</p>	<p>This module aims to build upon the students' principles of modeling 3D techniques acquired in the previous 3D techniques studies to model a 3D character from a base 3D geometry to high resolution sculpt. Students will learn the process of animation character development with conceptual drawings and sketches and how to project high resolutions detail on low resolutions geometry, create UV's and various textures effects such as diffuse, specular, ambient occlusion, skybox, image planes, props and</p>

	<p>normal mapping using 3D Max, Maya and Mudbox. On completion of the module students will be able to create a turntable demo of 3D character with professional lighting and textures.</p> <p>Credit Points: 10</p>
3D Game Design	<p>The module provides students with the essential knowledge to develop practical understandings in 3D game design and development. Using industry standard 3D computer graphics tool and cross-platform game engine, students will be guided to explore the technical and creative aspects of 3D game design process with emphasis on 3D game graphics, environments, mechanics, interactivity, and more. The guidance will take the form of lectures, tutorials, technical demonstrations, and practicals. 3D game genres and platforms, 3D game engine and development tools, integration and optimisation of 3D game assets, lighting in 3D game environments, 3D mechanics and user interactions, etc.</p> <p>Credit Points: 15</p>
3D Rigging	<p>The module provides students with essential knowledge and skill sets in character rigging for mechanical and organic models in 3D animation. Using the industry standard 3D computer graphics software, students will be guided to explore both the technical and aesthetic aspects of bipedal rigging to create realistic and flexible movements for character animation. The guidance will take the form of lectures, tutorials, technical demonstrations, practicals, and critique sessions. The components of the module include techniques of forward and inverse kinematic, skeleton controls, realistic and cartoon motion studies, parenting and groups, curve controllers and weighting, etc.</p> <p>Credit Points: 15</p>
Academic Research and Communication Skills	<p>This unit covers key aspects of research and communication studies in academic contexts relevant to students of design and marketing. Students engage in collaborative learning activities throughout the term in order to develop their teamwork skills. Students learn to locate, understand and critically evaluate information from books, journals, the Internet and primary sources in order to do effective research. Using these sources of information, students then produce an extended piece of analytical writing and give oral presentations to their peers. Skills in doing primary research (i.e. conducting focus groups and surveys), accessing and evaluating information, paraphrasing, using established referencing systems, applying the principles of effective communication and the professional presentation of documents are all covered during the module.</p>

	Credit Points: 10
Design Studio	<p>Progressing towards industry-focused development, the module provides students with a practical training ground to put their design knowledge and skills in practice through engagement in live projects, design competitions, or the equivalent. In the module, students will experience first-hand the “real world” expectations in design from clients or industry partners. In addition, students will gain familiarization with the professional standards in project planning and time management, as well as the fast-paced design process in the creative industry. Facilitated by the lecturer or tutor, students are required to work independently to present a well-considered design solution with emphasis on the fulfillment of requirements in the creative brief.</p> <p>Credit Points: 15</p>
Digital Videography	<p>The module provides students with the essential knowledge and skill sets to gain fundamental understandings of capturing moving images through digital videography. In the module, students will be guided to explore both the technical and aesthetic aspects of videography as an contemporary medium of expression in visual communication. The guidance will take the form of lectures, tutorials, technical demonstrations, practicals, and critique sessions. The components of the module include video production workflow from storyboarding to audio integration, art directions in videography and cinematography, video editing and compositing with industry standard tools, effects treatment in post-production, etc.</p> <p>Credit Points: 15</p>
Game Level Design	<p>This course aims to introduce students the art of developing and creating game level design. Students will go through the process of planning and developing game levels from concept, story, genre, audience, purpose, objectives, features, obstacles, top-down layout, functionality and visual development for video games design.</p> <p>Credit Points: 10</p>
Game Programming	<p>The module provides students with the basic knowledge to develop a programming foundation in object-oriented game development. In the module, students will be guided to explore the fundamental concepts of OOP (Object Oriented Programming) and gain familiarization with the principles, logics, and techniques of OOP-supporting programming language. The guidance will take the form of lectures, tutorials, technical demonstrations, and practicals. The components of the module include various systems of interaction for rich gaming experience such as in-game coordinate mapping, score keeping and measurement, reward and penalty, etc.</p>

	Credit Points: 15
History of Visual Communication	This unit will enable learners to recognise, and understand, the major historical developments of Visual Communication through research of the major fine art and design movements. The course integrates factual historical knowledge with an exploration of the interpretations and theories surrounding historical change. The main objective in studying past art and design languages and forms is to give students a solid grounding and context for contemporary Visual Communication in regard to their own design practise.
Major Project	Building on the prior design knowledge and skills, the module provides students with an opportunity to reflect upon their experiences in previous modules and extend their design development in areas of specialisation that they would like to pursue in greater depth. Within a self-directed problem based framework, students will be challenged in their usual understanding of design practices in order to formulate a comprehensive, well considered, and creative design solution. Throughout the module, students will be facilitated by the lecturer or tutor to complete their design projects of choice in adherence to industry standard process and workflow. The priorities of the module include advanced level of analytical and critical thinking, strategic planning and management, competency in creative conceptualisation and execution, etc. Credit Points: 40
Motion Graphics and Effects 1	The module provides students with the essential knowledge and skill sets to build a solid foundation in motion graphics and effects design. Using industry standard vector based animation and motion effects tools, students will be guided to explore various animated interactions between motion elements in screen media, ranging from simple shapes to complex forms; from pictorial marks to symbolic logos; from type to imagery. The guidance will take the form of lectures, tutorials, technical demonstrations, practical experimentations, and critique sessions. The components of the module include stop motion animation, animated web content, typography in motion, and comprehensive motion graphics design, etc. Credit Points: 10
Motion Graphics and Effects 2	Building on the foundation of Motion Graphics and Effects 1, the module enables students to gain proficiency in the advanced practice of motion design. Through theoretical and practical guidances, students will develop specialised skills in creating sophisticated motion designs with focus on creative application of animated visual effects to both the conventional and unconventional time based media. The guidances will take the form of

	<p>lectures, tutorials, technical demonstrations, practical experimentations, and critique sessions. The components of the module include advanced masking with rotoscoping and motion tracking; simulation effects in various particle systems; motion effects in VR/360 environments, etc.</p> <p>Credit Points: 15</p>
Portfolio and Showreel	<p>The module provides students with the essential knowledge and skill sets to develop a personal portfolio, which can reflect their competency and positioning in their areas of specialization. Through theories and practicals, students will be guided to investigate and improve their representative design works in the portfolio design process. The guidance will take the form of lectures, tutorials, practical experimentation, and critique sessions. The components of the module includes self-assessment, review and revision of assignments, resume writing, presentation skills for job interview, etc.</p> <p>Credit Points: 15</p>
Screenplay and Storyboarding	<p>The module aims to provide students the knowledge and skills of storytelling and storyboarding, the process of visual planning the film before shooting. The emphasis will focus on the visualization skills, visual storytelling, narrative structure, rapid sketching by translating scripts into illustrated frames that detail each scene's composition, character development, acting, lighting, camera angles into a sequential visual story. Upon completion of the module, student will be able to develop storyboarding with digital animatics to illustrate sequential narrative story visuals.</p> <p>Credit Points: 10</p>
User Interaction Design 1	<p>The module provides students with essential knowledge and skill sets to build a solid foundation in the development of effective interface design. Through theories and practicals, students will be guided to plan, strategize, and design a system of human-centric interfaces with emphasis on accessibility and usability in the context of user experience. The guidance will take the form of lectures, tutorials, technical demonstrations, practicals, and critique sessions. The components of the module include user behavior patterns, information architecture, planning and sequence mapping, GUI, visual hierarchy and navigation, prototyping in low, medium, and high fidelity, user interaction in interface system design, etc.</p> <p>Credit Points: 10</p>

Choose 1

Industrial Attachment	<p>This module aims to provide students with the opportunity to gain real-world industry experiences and professional practices in their chosen discipline. It allows students to establish connections, develop useful contacts, and gain industrial skills and an overall perspective of the discipline. The industrial attachment is intended to enhance students' educational experience and prepare them for their careers.</p> <p>Credit Points: 20</p>
Industry and Community Engagement	<p>In this module, students are required to use their design knowledge and skills in industry-focused and/or community-based projects. These projects are facilitated by the lecturer or tutor, and there will be interactions with and feedback from key industry/community project mentors. The module is intended to prepare students for the expectations of the fast-paced real-world industry, and professional practices in careers in their chosen discipline.</p> <p>Credit Points: 20</p>