ADVANCED DIPLOMA IN
VIDEO GAME DESIGN

Awarded by : Raffles College of Higher Education, Singapore
Intakes : January, April, July, and October
Duration : 1 Year and 6 Months (Full-time)

Core Modules

History of Visual Communication

The module provides students with the historical overview of graphic design as the anchor of visual communication from early twentieth century to present. In the module, students will be guided to trace the evolution of graphic design, from both the cultural and technical perspectives, and the contextual factors from which it arose. The guidance will take the form of lectures, discussions, visual analyses, and critique sessions. The components of the module include investigation of traditional and contemporary forms of graphic designs from various key movements, exploration of the role and influence of graphic design in modern society, introduction to the important graphic designers of different generations, etc.

Credit Points: 10

Academic Research and Communication Skills

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 interviews 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.

Credit Points: 15

User Interaction Design 1

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.

Credit Points: 10

3D Character Modeling

The module provides students with essential knowledge and skill sets to model a 3D character from base geometry to high resolution sculpture. Using industry standard 3D computer graphics software, students will be guided to explore both the technical and aesthetic aspects of the process of character development from concept design to final rendering. The guidance will take the form of lectures, tutorials, technical demonstrations, practicals, and critique sessions. The components of the module include understanding of projection of high resolution details on low resolution geometry, digital modeling and sculpting techniques, UV mapping, various texturing methods such as bump, displacement, reflection, specular, occlusion mappings, etc.

Credit Points: 15

Screenplay and Storyboarding

The module provides students with the fundamental understanding of screenplay and storyboarding for short films, animations, and video games. Through theories and practicals, students will be guided to explore both the technical and aesthetic aspects of visual storytelling with emphasis on original scriptwriting and sequential narrative in the format of storyboard and animatic. The guidance will take the form of lectures, demonstrations, practicals, and critique sessions. The components of the module include the roles of screenwriting and storyboarding in film, video, animation production; film direction and cinematography basics, strategic crafts in screenwriting; creative visualisation techniques and practices in storyboarding, etc.

Credit Points: 15

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

Game Programming

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.

Credit Points: 15

Digital Videography

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.

Credit Points: 15

2D Game Design

The module provides students with the essential knowledge to develop a basic foundation in 2D game design and development. Using industry standard computer graphics tool and cross-platform 2D game engine, students will be guided to explore the technical and creative aspects of 2D game design process covering areas such as game graphics, structure, mechanics, interactivity, and more. The guidance will take the form of lectures, tutorials, technical demonstrations, and practicals. The components of the module include the historical development of video game; typology and ethics of game design; game story structure, form and function; character archetypes and background tiling, user interface and interaction, etc.

Credit Points: 10

3D Game Design

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.

Credit Points: 15

3D Rigging

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.

Credit Points: 15

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 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.

Credit Points: 15

Portfolio and Showreel

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.

Credit Points: 15

Game Level Design

The module provides students with the essential knowledge and skill sets to gain proficiency in game level design. In the module, students will be guided to explore both the technical and creative aspects of game structuring with emphasis on moving gamers through various stages and environments to create a compelling game experience. The guidance will take the form of lectures, tutorials, technical demonstrations, practicals, and critique sessions. The components of the module include the role of level designers; game genres, structure and mechanics; gamer motivation and psychological behaviour, game progress, stages, and competitions; visual clues and environment development, etc.

Credit Points: 15

3D Character Animation

Building on the foundation of 3D Character Modeling and 3D Rigging, the module enables students to gain proficiency in the advanced practice of 3D character animation design. In the module, students will be guided to explore specialised skills in infusing illusion of life to animated characters. The guidance will take the form of lectures, tutorials, technical demonstrations, practicals, and critique sessions. The components of the module include character motion planning with poses and animated sequences; expression conveying personality, emotion, and attitude; staging, lighting, and props; sound design and lip synchronization, etc.

Credit Points: 15

Industrial Attachment

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.

Credit Points: 20

Industry and Community Engagement

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.

Credit Points: 20

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

Design Studio

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.

Credit Points: 15