

IMMERSIVE MEDIA & GAME DESIGN COURSE MODULES

Build immersive experiences that allow users to interact with graphics, moving images and sound, or launch the next big interactive gaming app with our Diploma in Immersive Media & Game Design (IMGD).

In your first year, you will receive rigorous training in design and programming through modules such as Drawing Foundation, Applied Design and Programming Fundamentals.

In your second year, you can choose to specialize in Immersive Interactive Media or Game Design.

Immersive Interactive Media

Get trained in developing apps for the Web, mobile and wearable devices, while acquiring skills in digital design and technology, and user experience design.

Game Design

Learn to conceptualise, design and create interactive entertainment experiences as well as digital 3D game environments and characters – sci-fi or fantasy. Plus, pick up skills in game design and game engine scripting languages.

In your final year, you will work on an interactive media project that gives you valuable production and project management experience. You will get to use the Game Design & Development Centre set up in ICT by award-winning 3D game engine provider, Unity Technologies. The Unity 3D game engine allows you to create rich, interactive 3D content on the web or mobile platforms easily. With such professional tools available, you are all set to impress your future employer with an industry-standard portfolio.

Throughout your three years, there are also ample opportunities for you to attend masterclasses conducted by industry experts and participate in overseas programmes designed to give you a global outlook and an enriching experience.

LEVEL 2.1

3D Asset Creation

This module aims to equip students with the capability to create a range of assets suitable for games and interactive applications. Workflows that are commonly used in the creation of real-time assets will be introduced. Efficient and time-saving techniques and methods will also be covered. Students will experience the process of translating a design of their own into a 3D fully textured object that can be used in real-time applications.

Designing User Experience

This module aims to equip students with skills and knowledge beyond the aesthetical aspects of an interactive interface design. Students learn how to strike a balance between forms, function, usability, and aesthetics, with emphasis on proper timeline management, teamwork and organisational skills. The cognitive aspects of engagement, and the psychological aspects of play or experience are discussed.

Digital Design & Illustration

This module will leverage knowledge and skills students gained from earlier art modules, while exploring contemporary visual design styles in their ideation works. Students will also be trained in design and production techniques using raster, vector and 3D applications.

Digital Video & Audio

This module introduces basic digital shorts production. Students will first learn audio-video production theory followed by practical production in labs and on location in the field. Production know-how, processes, cameras, microphone systems, audio-video editing software, and lights will be provided. In-class practical audio, camera and editing exercises followed by continuous assessments, two assignments and a test are all designed to reinforce student learning.

Fundamentals of Creative Professionals II

This module gives a course-based experience in which students can engage with the local community and industry. This includes participation in community service events or in Service-Learning projects that leverage students' discipline

knowledge and skills to meet identified needs. Through iterative and guided reflection on the service experience, students gain a broader appreciation of their discipline and an enhanced sense of personal voice, empathy and civic responsibility. Industry talks and seminars are organized to keep students up-to-date on emerging trends so as to build up their interpersonal, team and networking skills with the community and industry.

World Issues: A Singapore Perspective[^]

This module develops a student's ability to think critically on world issues. Students will discuss a wide range of social, political and cultural issues from the Singapore perspective. It also looks at how city-state Singapore defied the odds and witnessed close to half a century of rapid economic growth, strong political ties and social harmony.

LEVEL 2.2

Experiential Design

This module aims to expose and introduce students to designing media content and applications for various digital platforms. It covers the concept of designing a product or installation for an immersive experience such as virtual reality/augmented reality technology. Students will be tested on their observational and research skills to seek out current/future technological advancements, and to come up with proposals and prototypes for actual implementation.

Interactive 3D Experience (I3E)

This module continues to develop students' ability to design and author highly interactive experience applications. The programming focuses on interactivity authoring through the eyes of designers for animation, visual effects, multimedia and games. It covers advanced authoring, digital storytelling techniques, user experience design, and project management techniques. Additionally, students will pick up a game engine and create prototypes for games and interactive projects.

Electives

GAME DESIGN SPECIALISATION

Game Effects Design

This module aims to equip students with the capability to create a range of effects for a variety of needs in game development. As part of effects design, students will be introduced to concepts in motion design as well as principles and methods of visual representations that are readily understandable, perceived and aesthetically pleasing.

Game Level Design

This module introduces the fundamental concepts of game level design with a 3D game engine from the start at a conceptual beginning and arrives at a polished end to build multiple levels, first for a puzzle/ arcade game and then for an action game. It covers the game engine technology, and the process of designing compelling worlds that immerse the player in interactive environments. Visceral worlds that tell a story through their aesthetics are combined with a refined design that allows the player to flow through a level. It introduces the use of art and audio (SFX and music) in games, writing concept documents, pitching concepts, and writing scrum-like milestones.

Game Mechanics

This module studies the game mechanics – the rules intended to produce an enjoyable gameplay, and introduces the principles and methodologies behind the rules and play of games. It first studies the simplest types of games, board and card games, and examines the basic math and rules that make these simple games enjoyable.

Students will then use this theoretical knowledge to create simple yet practical games that show their comprehension of what is enjoyable in games. It pays attention to the psychological design considerations, play testing, game tuning, player analysis, and the integration of visual, audio, tactile and the textual elements. Once students have mastered the basics of physical game mechanics, they will expand their expertise by looking at various arcade-action games and other simple action games. They will then create prototypes of games and will hold focus groups to get feedback on their designs.

Real-time Environment Design & Lighting

In this module, students will build upon skills and knowledge attained in 3D fundamental modules into the creation of digital environments for real-time applications. Environment lighting concepts will be covered to equip students with the ability to create realistic as well as surreal environments. Effective concepts and workflows will be covered in this module in order to facilitate level design processes.

IMMERSIVE INTERACTIVE MEDIA SPECIALISATION

Developing Dynamic Web Application

This module aims to broaden the students' skillsets by introducing server-side development to create a web product. This module covers various client- server architectural concepts that involves rich client, application server and database. Students will hone their programming skills by learning server-side programming, object-oriented programming, database design and development. In addition, students will experience the full stack development process and workflow.

Developing Mobile Experience

This module introduces various mobile digital technologies and their unique characteristics and features. It also aims to further develop the programming skills of students using the programming language of mobile technology. The module focuses on the specific and core features of mobile technology that will give rise to fun, rich and engaging mobile experiences such as the accelerometer, GPS, magnetometer, advanced multi- touch gestures and modern user interfaces.

Interactive Development

This module targets the enhancement of students' programming mindsets by combining their knowledge of programming and design to produce interactive and engaging applications. This is coupled with the learning of web animation and interactive chart production to create rich media products that enhances the user experience.

Motion Graphics & Effects

This module inducts students into the world of digital effects. Aimed at value-adding to the storytelling experience, students are first introduced to the impact of visual effects on storytelling in films, followed by the principles and elements of motion design. Exercises, assessments and assignments are aimed at developing research, conceptualisation and storytelling skills for the creation of compelling and exciting time-based media.

COURSE CURRICULUM

Module Name	Credit Units
YEAR 2	
Level 2.1 (24 hours per week)	
3D Assets Creation	4
Designing User Experience	4
Digital Design & Illustration	4
Digital Video & Audio	4
Elective Module #	4
Fundamentals for Creative Professionals II	2
World Issues: A Singapore Perspective^	2
Level 2.2 (22 hours per week)	
Career & Professional Preparation II	2
Elective Module #	4
Elective Module #	4
Elective Module #	4
Experiential Design	4
Interactive 3D Experience	4

Notes:

^ For more details on Interdisciplinary Studies (IS) electives, please log on to www.np.edu.sg/is/

IS Modules

The School of Interdisciplinary Studies (IS) delivers a broad-based curriculum, which nurtures a new generation of professionals with multidisciplinary skills and an innovative and entrepreneurial spirit to meet the challenges of a knowledge economy. IS offers both prescribed modules and electives to challenge boundaries. Prescribed modules develop students' competencies in core areas such as Communication, Innovation and Enterprise, Culture and Communication, and Personal Mastery and Development, while elective modules provide insights into Arts and Humanities, Business, Design, and Science and Technology.

The prescribed/elective modules offered may change from year to year, depending on relevance and demand. They may also include modules available in other diplomas offered by the School.