

Game Design & Development



"The potential for serious games is growing exponentially in recent years. The market growth rate is 20.2% and its revenues will more than double to \$8.1 billion by 2022, up from the \$3.2 billion reached in 2017. These are the games that are utilised for serious purposes such as health and education. TP's students from the Game Design & Development course are well positioned to reap the opportunities in this new digital industry."

Ivan Boo
Director, Serious Games Asia
Chairman, Serious Games Association
(Singapore)

Immersive media, augmented reality and virtual reality (AR/VR) are making games come alive in ways no one ever imagined before and they can reach many more people. At TP, we focus on developing students' skills in Serious Games. Serious Games are those that go beyond entertainment. The demand for them is increasing, with many being developed in the form of simulations and training for different sectors such as healthcare and the military. With Singapore hosting a large gaming industry, there is a need for highly skilled game developers and designers who can use the latest immersive technologies to work on both entertainment and serious games.

To successfully develop a game that excites, engages and educates an audience requires skill. These include skills in concepts such as digital storyboarding and game production – including 2D/3D animation, immersive technologies (AR/VR) and game publication.

Our subjects allow you to have a strong understanding of and experience in the immersive technologies behind serious and video games, giving you a firm grasp of the end-to-end process of developing a successful game. We also prepare you to be

industry relevant with certifications from our industry partners such as Autodesk and Unity.

Our lecturers, some of whom have worked on some of the world's best-selling video game titles, specialise in various areas of game production. They will help you acquire the skills to create your games from the initial stages of concept development and design, through to programming and the final stages of publishing a game. Some of our students' projects include commercially available iPhone and Android games, as well as serious games related to training and simulation for different industry sectors. You will have the chance to be attached to leading game developers, overseas companies and universities for your internship.

Upon graduating, our students can pursue further studies through the Earn & Learn Programme which enables them to work and deepen their skills, or they can undertake a degree course.

Career Opportunities

You will graduate with the skills to fill the following types of positions: applications developer, game developer/programmer, AR/VR developer.

Graduation Requirements

Cumulative Grade Point Average : min 1.0

TP Fundamentals Subjects : 40 credit units

Diploma Subjects

Core Subjects : 72 credit units

Elective Subjects : min 8 credit units

Total Credit Units Completed : min 120 credit units

Application

Apply during the Joint Admissions Exercise following the release of the GCE O Level results. For other categories of local applicants, please refer to the section on “Admission and Requirements”. For international students, please refer to the section on “Information for International Students”.

Entry Requirements for Singapore-Cambridge GCE O Level Qualification Holders

To be eligible for consideration for admission, applicants must obtain 26 points or better for the net ELR2B2 aggregate score (i.e. English Language, 2 relevant subjects and best 2 other subjects, including CCA Bonus Points) and meet the minimum entry requirements of this course. CCA cannot be used to meet the minimum entry requirements.

For details on GCE O Level Minimum Entry Requirements, refer to page 214.

Note: Applicants with complete colour vision deficiency are not eligible to apply for this course.

Course Structure

TP FUNDAMENTALS (TPFun) SUBJECTS				
SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS	
CCS1006	Communication & Information Literacy	1	2	
CCS1007	Workplace Communication	1	2	
CCS1008	Persuasive Communication	1	2	
CGS1002	Global Studies	1	3	
CGS1003	Managing Diversity at Work*	1	3	
CGS1004	Global Citizenship & Community Development*	1	3	
CGS1005	Expressions of Culture*	1	3	
CIN1001	Innovation & Entrepreneurship	1	2	
GCC1001	Current Issues & Critical Thinking	1	2	
LEA1011	Leadership: Essential Attributes & Practice 1	1	1	
LEA1012	Leadership: Essential Attributes & Practice 2	1	1	
LEA1013	Leadership: Essential Attributes & Practice 3	1	1	
LSW1002	Sports & Wellness	1	2	
MCR1001	Career Readiness 1	1	1	
MCR1002	Career Readiness 2	1	1	
MCR1003	Career Readiness 3	1	1	
TGL1001	Guided Learning	1	3	
CSI3004	Student Internship Programme	3	16	

* Students must choose one of these three subjects or TGL1001 Guided Learning.

DIPLOMA SUBJECTS – CORE SUBJECTS

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
CCF1C02	IT Systems Security Essentials	1	4
CGE1C10	Game UiUx	1	4
CIA1C06	Database Application Development	1	4
CIA1C07	Logic & Mathematics	1	3
CIA1C10	Data Analytics	1	4
CIT1C14	Data Structures & Algorithms	1	4
CIT1C18	Computational Thinking	1	4
CIT1C19	User Experience & Interface Design	1	3
CIT1C20	Coding & Development Project	1	4
CMC1C08	Network Technology	1	4
CGE2C12	Game Modelling	2	4
CGE2C15	Game Math & Physics	2	4
CGE2C16	Game Development	2	4
CGE2C17	Game Development Project	2	4
CGE2C19	Programming with Game Engines	2	4
CGE2C20	Game Design	2	4
CMP3702	Major Project	3	10

DIPLOMA SUBJECTS – ELECTIVE CLUSTERS

SUBJECT CODE	SUBJECT	LEVEL	CREDIT UNITS
<u>Advanced Game Design</u>			
CGE2P21	Advanced Game Modelling	2	4
CGE3E02	Advanced Game Design	3	4
<u>Advanced Game Programming</u>			
CGE2E05	Programming for Procedural Game Content	2	4
CGE3E01	Game AI	3	4