



Institute of Digital Game Technology – NTU (IMI)

Empowering the next generation of game leaders

MODULAR COURSES IN GAMES

DEVELOPMENT

Digital Game Art

&

Game Programmers



Institute for Media Innovation



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1.1 COMPANY PROFILE

IDGT (Institute of Digital Game Technology) is set up by TQ-Global (Holdings) Ltd and its subsidiary in Singapore for the purpose of nurturing and training the next generation of Asian games developers and programmers in advanced games platform through research and development.

IDGT founders had been in games production and Computer Graphic industries for over the past 20 years. By combining our technical know-how, our research and development effort and our in-depth understanding of the industry requirements, we are bringing out a program that not only meets the needs of our industry, but also inspires the next generation of computer and video games leaders.

IDGT has two campuses, one in Shenzhen China and the other in NTU GameLab under the Advanced Game Platform Programme.

TQ Global recognizes that its future rests on the people that we train and nurture today. Since Asia is not well known for its technology and know-how in console game development and production, TQ Global has taken a long term view by being the first to provide the scholarship for the Nanyang Technological University Master Degree in Advance Game Platform since 2006. We have sponsored 21 Master's Students under this program. We delivered the "Baja-Edge of Control" in 2008 a PS3 and Xbox game, the first such game ever produced in Singapore. Currently, we are working on state of the art 3D Arcade Game and MMO. In this Master Program students learn to conduct advanced research and develop technology that can be used in game development environment. The right candidate will work on the R&D project that is game related to help push the game development envelope and to make Singapore the global center for next generation and advanced game development.

To further our program and to train the future leaders of the computer and video game industry, we have expanded our program to non-academic sector.

IDGT Professional Training program caters to the Game Programmers and the Technical Artists. We are currently conducting Diploma courses in Game Programmers as well as Technical Artists. However, we understand that they are students who are interested to work in the games industry but may not have the sufficient skills, knowledge and even the confidence to study at Diploma level. Thus, based on the feedback, we have come up with an Advanced Certificate to bridge the gap for these professionals.



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1.2 MISSION STATEMENT

IDGT (Institute of Digital Game Technology) is set up by TQ Global (Holdings) Pte Ltd to further the art of computer and video game production and development. This encompasses a wide range of disciplines like computer graphics, Artificial Intelligence, Physical simulation, digital art & animation and programming. We hope that we can bridge the gap in technical skills between formal education programs offered by traditional academic institutions and the immediate requirements of the game industry. We aim to produce highly desirable technical professionals with the relevant skills and knowledge for the game industry.

1.3 OBJECTIVES

- As a **training ground** for the future leaders of the computer and video game industry.
 - Provides a world class **Research and Development** facility and **training** to advance the art of computer and video game development and production.
 - To give **real world experience** to our students.
 - Help **deliver skilled work force** that fuels the growth of our computer and video game industry
 - To foster **creativity** and provide opportunity to talented individuals through IDGT Scholarship program
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1.4 CONTACT INFORMATION

Website: www.idgt.org

IDGT – SZU (China Campus)

Tel No: +86 0755 82910028

Address:

IDGT (Singapore campus)
C/o Institute of Media Innovation
50 Nanyang Drive
Research Techno Plaza
XFrontiers Block,
Level 02-02
Singapore 637553

Contact Number:

Telephone : 65 6397 1173

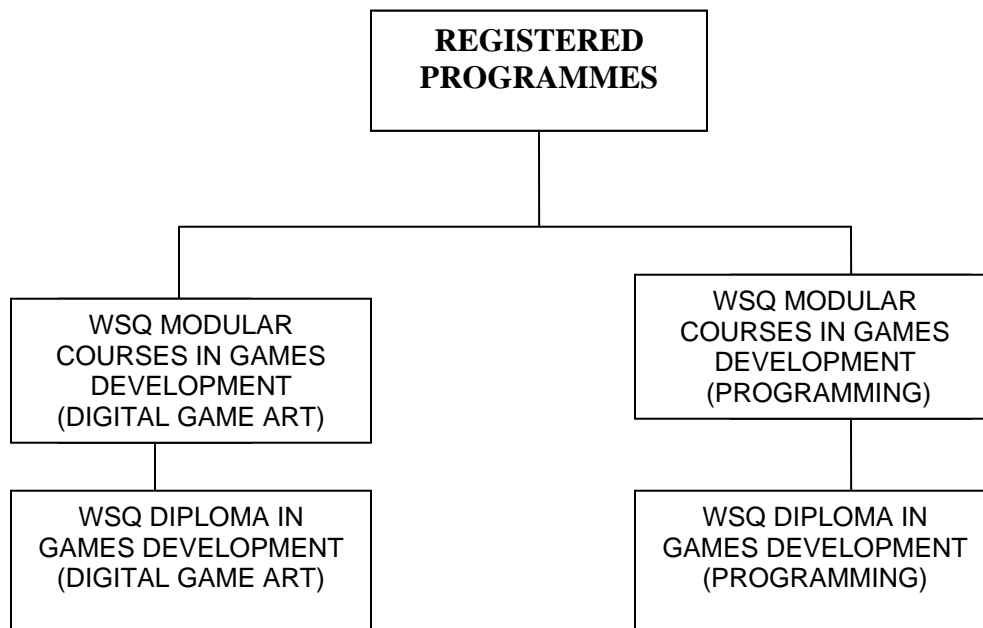
Fax : 65 6397 1373

Email:

info@tqglobal.com.sg



2 THE IDGT UNIQUE EDUCATION CONCEPT



IDGT has a full standing partnership with Nanyang Technological University, Institute for Media Innovation (NTU-IMI) and Shenzhen University, School of Broadcasting.

Riding under the wings of TQ Global, IDGT's training program offers unique and highly specialised game development training with the following advantages:

1. Our training programs' emphasis on teamwork and workplace communications between trainees.
2. Working with TQ Global, IDGT's trainees will have access to all materials from the games that TQ Global has developed as well as guidance from those technical leads.
3. Collaborations with established universities like Nanyang Technological University and Shen Zhen University also ensure the high quality of IDGT's training in terms of course design and delivery.

By leveraging on the training expertise of IDGT-IMI and production experience of TQ Global Pte Ltd., we hope to raise productivity and expand the game creativity and development. This innovation will in turn attract more foreign companies to invest in Singapore and thus, create job opportunity for Singaporeans who are interested to build a career in game industry.



2.1 THE FIVE BASIC PRINCIPLES

- **Principle 1: A realistic introduction to the game industry and game-related technology**

Candidates often have an inaccurate impression of the game industry. As such, it is very important to set the expectations right. In addition, IDGT hopes to instill the passion and desire in the students to put in the extra effort to make the best of the education / training.

- **Principle 2: A strong foundation in the basic technical skills**

The program must provide comprehensive and meaningful training in the basic technical skills required for a competent game artist or game programmer. This includes foundation modules in game systems, computer graphics, 3D mathematics,

- **Principle 3: Promote teamwork and collaboration between artists and programmers**

IDGT encourage close interactions between artists and programmers. Student artists and programmers are required to collaborate and work together. This mirrors the actual working conditions in game studios where artists and programmers often have to communicate to share knowledge, technical requirements and concerns.

- **Principle 4: Expose students to tools, technology and industry practices currently in use within the game industry**

Software tools, applications and technologies taught and used in the program would be the standard and current tools use.



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- **Principle 5: A balanced education with an equal 50-50 distribution between theoretical training and practical work**

The education concept demands a strong emphasis on practical work and training. The comprehensive theoretical training provided would be reinforced through practice in lecture, assignments and laboratory work.



2.2 GENERAL COURSE OBJECTIVE OUTLINE IDGT ADVANCED CERTIFICATE

The course objectives:

1. To facilitate a three months intensive course with the objective of managing the gap between learners' traditional skills and IDGT Diploma courses.
 2. To prepare each individual with all the necessary skills and training necessary before they enroll in IDGT diploma courses.
 3. To provide the platform of all creative tools and basic programming skills essential for all artist and programmer.
 4. To introduce the individual to scripting language especially C++ and Maxscripts.
 5. To familiarize the individual with different hardware architecture and various PC graphic system.
 6. To assist each trainee to understand how to implement graphic pipeline with various game engines.
 7. To create awareness of the basic engine development and their limitations
 8. To be technically proficient in lighting and rendering, texturing, game modeling, animation and graphics-related programming languages.
 9. To explore the creative thinking in resolving technical challenges and limitations.
 10. To promote organization and communication skills.
 11. To learn and discover the real work project and its production.
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3. IDGT TECHNICAL ARTIST COURSE

- **Create Concept Art through Illustration**

This module introduces theories about design and fine art; a major part of it covers the fundamental techniques and process either analogue or digital media that are used to establish or clarify the mood or style for game production. In addition, it helps in focusing on the understanding and application of fundamentals in which to resolve design problems.

Finally the goal is to create conceptual art works and working with the art department to depict the art direction of the game or its assets.

Thus generates visual design for 'pitching' material and provide direction for production pipeline.

- **Creating 3D Assets for a Game**

This module introduces the basic techniques that a 3D game artist must have to perform in the game industry.

The major portion of this course is dedicated to the basics modeling techniques used by the modeling artist in the game industry. Using the current industry standards tool, this course will help the learners to get the feel and familiarize with the software. This course will also help the learners to have a smooth transition between the traditional based to the digital art.

Finally the goal is to create optimized 3D models and for those which are ready, to be put inside the game, and also fulfilling the requirements necessary for the game engine



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- **Create Programming algorithms**

This subject introduces the basic skills on programming. It helps students to have general fundamental concepts of program development to solve the problems in science and technology. The student will be exposed to the basic programming knowledge, such as how computer stores data, programming logic structure, good programming practice, and introduction to development tools.

The focus is on the understanding of basic programming concepts such as data type, Input/Output, function, array, strings, and algorithms. These concepts are required so that the students are able to create a simple program to answer simple tasks.

This course aims to train and develop students with the basic skills in producing digital assets in the hope of leading to finer details of producing artwork, 2D/3D models and assets for video games.



4. IDGT GAME PROGRAMMING COURSE

Programming and Data Structure

This course is designed to introduce the fundamental of C++ programming with practical examples using simple applications. The main focus is on the understanding of programming concepts such as data type, function, and pointer. Some brief introduction to object oriented programming (OOP) concepts is also given as a prelude to the data structure.

First half of the course builds the foundation in programming to make students comfortable of using C++ as programming tool to build their confidence. Final half of the course covers on the more advanced topics in programming as a preparation to create a basic simple text game as the final product of this course.

This course aims to educate and train students with basic computer science and programming skills with the intention of advancing into game programming topics like Artificial Intelligence for games, virtual simulations, graphics pipeline programming and other important game-related technology.

Ultimately, the goal is to introduce artist students about basic programming skill which is necessary to write or edit MaxScript and Shader script.



5. REQUIREMENTS FOR TRAINEES

5.1 ADMISSION REQUIREMENTS

- **No professional certification needed**
 - But preferably someone with high interest and knowledge in developing and playing games.
 - Someone who wishes to demonstrate technical skills and capability in writing software applications.
 - Someone with passion in game and basic programming concepts are most welcome.
 - Someone who are interested in career development and/or career progression.
 - Someone who have the appropriate aptitude, attitude and passion for computer games.
 - Someone who want to refresh their skills and knowledge.
 - Company who feel that there is a gap and demand in the skills, knowledge and applications for the game artist as well as game programmer.
 - Company who believe in 'Train and Retrain' staff to boost their staff's morale and confidence.

5.2 GRADUATION REQUIREMENTS

- Pass the module examinations to get Statement of Attainment.
 - Try to secure a 100% attendance record except when on medical leave.
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6 ENROLMENT PROCESS

6.1 HOW TO ENROL

1. Complete & Sign the Registration Form.

Please ensure that you have read and understood the Terms and Condition of the Registration Form prior to submitting and making any payment towards your course.

2. Pay the Registration Fee.

A registration fee of **S\$53.50** (inc. GST) must be received in full by Institute of Digital Game Technology (made payable to **Institute of Digital Game Technology**) upon submission of the Registration Form.

3. All Application must be submitted together with the following documents.

- Copy of NRIC/ Passport. The photocopy must show your NRIC/passport number, full name, date of birth, country of birth and nationality.
- Copy of academic certificates/ qualifications.

4. Deadline for Registration.

Modular Courses in Games Development (Digital Game Art) and Advanced Certificate in Games Development (Programming) 2010 Registration Form deadline is **18th November 2010**.

5. Send your Registration Form & Registration Fee.

Please submit your completed Registration Form to:

Institute of Digital Game Technology–NTU (IMI)
c/o Institute for Media Innovation
50 Nanyang Drive, Research Techno Plaza
XFrontiers Block Level 02-02,
Nanyang Technological University,
Singapore 637553

Attn: Student Admin & Registration Officer



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7. Confirmation & Payment of Full Course Fee

An Acceptance Letter will be sent to all shortlisted trainees. Trainees will be required to make an advance payment of the Full Course Fee before the commencement of the course. A copy of the Acceptance Letter and payment of the Full Course fee are to be submitted to:

Institute of Digital Game Technology–NTU (IMI)
c/o Institute for Media Innovation
50 Nanyang Drive, Research Techno Plaza
XFrontiers Block Level 02-02,
Nanyang Technological University,
Singapore 637553

Attn: Student Admin & Registration Officer

Please note that trainees, who fail to make full payment of the Course Fee upon submitting their Acceptance Letter, will have their applications deemed incomplete and withdrawn for enrolment.

Singaporean Citizens and PR:

SGD\$741 (SGD\$778.05 incl. 7% GST)

*Singaporean and PRs are eligible for subsidy for the course fees

International Trainee:

SGD \$1,491.00 (SGD\$1,595.37 incl. 7% GST)

8. Course Commencement

Both Modular Courses in Games Development (Digital Game Art) and Modular Courses in Games Development (Programming) courses will commence on the **15th November 2010**.

Classes will be conducted within the Nanyang Technological University (NTU) campus, Singapore.



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6.2 PAYMENT DETAILS

Payment 1: Registration Fee:

SGD50.00 (SGD53.50 incl. 7%GST)

**Registration fee is non-refundable and non-transferable*

Payment 2: Course Fee (only for shortlisted trainees):

Payment of the **Registration Fee** and **Course Fee** can be made by:

- Bank cheque*
(Made payable to **Institute of Digital Game Technology**)
 - Cash payment (only if application is submitted **in person** at the Institute of Digital Game Technology)
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