

DIGIPEN INSTITUTE OF TECHNOLOGY SINGAPORE

# **COURSE CATALOG**

Master of Science in Computer Vision 2022–2023

#### **Notices**

## Degree Exemption

In accordance with the Degree-Granting Institutions Act Regulations (WAC 250-61-060 (3)), DigiPen Institute of Technology is considered to be an eligible institution exempted from degree authorization requirements by the Washington Student Achievement Council effective November 1, 2012.

#### Accreditation

DigiPen Institute of Technology is accredited by the Accrediting Commission of Career Schools and Colleges (ACCSC), a recognized accrediting agency by the U.S. Department of Education, USA.

DigiPen Institute of Technology Singapore and DigiPen Institute of Technology Europe-Bilbao are both accredited by ACCSC as branch campuses of DigiPen Institute of Technology located in Redmond, Washington.

The Bachelor of Science in Computer Engineering program offered at Redmond campus is accredited by the Engineering Accreditation Commission of ABET, www.abet.org. This accreditation action extends retroactively from October 1, 2012.

The Bachelor of Science in Computer Science in Real-Time Interactive Simulation program offered at Redmond campus is accredited by the Computing Accreditation Commission of ABET, www.abet.org. This accreditation action extends retroactively from October 1, 2015.

# Registration with Committee for Private Education (CPE)

DigiPen Institute of Technology Singapore is registered with the Committee for Private Education (CPE).

CPE Registration No.: 200711322H

Registration Period: 21 June 2018 to 20 June 2024

From AY 2022/2023 onwards, DigiPen Institute of Technology Singapore offers the following degree programs:

- Bachelor of Science in Computer Science in Real-Time Interactive Simulation
- Bachelor of Science in Computer Science in Interactive Media and Game Development
- Bachelor of Engineering in Mechatronics Systems
- · Bachelor of Arts in User Experience and Game Design
- Bachelor of Fine Arts in Digital Art and Animation

Master of Science in Computer Vision

For a list of institutions registered with the Committee for Private Education (CPE) in Singapore, you may refer to the CPE website at www.ssg.gov.sg/cpe/pei.html.

## Collaboration with Singapore Institute of Technology

On March 9, 2010, the Ministry of Education announced that the Singapore Institute of Technology (SIT), a national institute set up to offer additional pathways for diploma holders from the five local polytechnics to obtain degrees from overseas higher education institutions, will partner with five international, highly reputable overseas higher education institutions to offer degree programs. DigiPen Institute of Technology Singapore was one of the universities invited to participate in this collaboration.

Under the collaboration, polytechnic graduates can apply through SIT to enroll in the following degree programs at DigiPen Institute of Technology Singapore:

- Bachelor of Science in Computer Science in Real-Time Interactive Simulation
- Bachelor of Science in Computer Science in Interactive Media and Game Development
- Bachelor of Engineering in Mechatronics Systems
- Bachelor of Arts in User Experience and Game Design
- Bachelor of Fine Arts in Digital Art and Animation

DigiPen Institute of Technology Singapore was granted approval by ACCSC for its first joint degree program with Singapore Institute of Technology, Bachelor of Engineering in Systems Engineering (ElectroMechanical Systems). The first cohort of the SEEMS program started in Fall 2015. This program has since been renamed to Bachelor of Engineering in Mechatronics Systems for the AY 2021/2022 cohort onward.

Effective AY 2020/2021 cohort onward, the Bachelor of Science in Computer Science in Real-Time Interactive Simulation program and the Bachelor of Science in Computer Science in Interactive Media and Game Development program are jointly offered by DigiPen Institute of Technology Singapore and Singapore Institute of Technology.

Through this admission pathway, qualified candidates may enjoy certain credit transfers, and their tuition fees may be subsidized by Singapore's Ministry of Education.

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## Important Notices

All items including, but not limited to, application forms, transcripts, reference letters, resumes, software, and any accompanying documentation or works of art (collectively "the Items"), forwarded to the Institute\* by any person (the "Sender") whether at the request of the Institute or otherwise, become the exclusive property of the Institute unless otherwise agreed to in writing by the Institute, and the Institute shall be under no obligation whatsoever to return the Items to the Sender. At the Institute's discretion, the Items may be destroyed after being reviewed.

Students' information and records including, but not limited to, academic, disciplinary, and financial information will be shared with Singapore Institute of Technology on a regular basis.

DigiPen Institute of Technology Singapore Pte Ltd reserves the right to make changes to the curricula, calendar, and Course Catalog without any prior notice.

The course offerings and requirements of DigiPen Institute of Technology Singapore are under continual examination and revision. The most recent edition of the Course Catalog supersedes any previous edition of the Course Catalog published for the same academic year. This catalog is not a contract; it merely presents the offerings and requirements in effect at the time of publication and in no way guarantees that the offerings and requirements will not change. The Institute specifically reserves the right to change requirements for any major during any particular year. The individual student assumes full responsibility for compliance with all current academic requirements. Current course offerings may be obtained from the Registrar's Office. Current major and degree requirements may also be obtained from the Registrar's Office. For the most current information, visit DigiPen Institute of Technology Singapore's official Course Catalog online at digipen.edu.sg/student-portal/academics/course-catalogs.

\*Please note that "Institute" and DigiPen (Singapore) refer to "DigiPen Institute of Technology Singapore," "DigiPen" refers to "DigiPen Institute of Technology," and "SIT" refers to "Singapore Institute of Technology" when used in the Course Catalog.

# **Academic Calendar and Deadlines**

# AY 2022/2023 Trimester 1 (Fall 2022)

WEEK		DATE	REMARKS/DEADLINE
Week 0			Friday, August 26, 2022 New Student Orientation (online)
Study Weeks	Week 1	August 29-September 4, 2022	
	Week 2	September 5-11, 2022	Monday, September 5, 2022 Classes begin Sunday, September 11, 2022 Last day to add or drop a module for AY2022/2023 Trimester 1 (Fall 2022). Withdrawal from a module or the Institute on and before this date will not receive any academic penalty.
	Week 3	September 12-18, 2022	
	Week 4	September 19-25, 2022	
	Week 5	September 26-October 2, 2022	
	Week 6	October 3-9, 2022	
Recess Week (No classes)	Week 7	October 10-16, 2022	Sunday, October 16, 2022 Final day to drop a module for AY2022/2023 Trimester 1 (Fall 2022). Withdrawal from a module or the Institute on or before this date will receive a "W" grade on transcript.
Study Weeks	Week 8	October 17-23, 2022	
	Week 9	October 24-30, 2022	Monday, October 24 , 2022 Deepavali Observed* No Classes
	Week 10	October 31-November 6, 2022	
	Week 11	November 7-13, 2022	
	Week 12	November 14-20, 2022	
	Week 13	November 21-27, 2022	
Final Assessment	Week 14	November 28-December 4, 2022	Friday, December 2, 2022 Last day of Trimester
	Week 15	December 5-11, 2022	
	Week 16	December 12-18, 2022	
	Week 17	December 19-25, 2022	Sunday, December 25, 2022 Christmas Day Observed* No Classes
	Week 18	December 26, 2022-January 1, 2023	Monday, December 26, 2022 Christmas Day day off* No Classes  Sunday, January 1, 2023 New Year's Day Observed* No Classes

# AY 2022/2023 Trimester 2 (Spring 2023)

WE	EEK	DATE	REMARKS/DEADLINE
Study Weeks	Week 1	January 2-8, 2023	Monday, January 2, 2023 New Year's Day day off  Tuesday, January 3, 2023 Classes begin
	Week 2	January 9-15, 2023	Sunday, January 15, 2023 Last day to add or drop a module for AY2022/2023 Trimester 2 (Spring 2023). Withdrawal from a module or the Institute on and before this date will not receive any academic penalty.
	Week 3	January 16-22, 2023	Monday, January 22, 2023 Chinese New Year Observed* No Classes
	Week 4	January 23-29, 2023	Monday-Tuesday, January 23-24, 2023 Chinese New Year Holiday Observed* No Classes
	Week 5	January 30-February 5, 2023	Friday, February 3, 2023 Founder's Day Classes as usual
	Week 6	February 6-12, 2023	
Recess Week (No classes)	Week 7	February 13-19, 2023	Sunday, February 19, 2023 Last day to drop a module for AY2022/2023 Trimester 2 (Spring 2023). Withdrawal from a module or the Institute on and before this date will receive a "W" grade on transcript.
Study Weeks	Week 8	February 20-26, 2023	
	Week 9	February 27-March 5, 2023	
	Week 10	March 6-12, 2023	
	Week 11	March 13-19, 2023	
	Week 12	March 20-26, 2023	
	Week 13	March 27-April 2, 2023	
Final Assessment	Week 14	April 3-9, 2023	Thursday, April 6, 2023 Last day of Trimester  Friday, April 7, 2023 Good Friday Observed*
			No Assessments
Intersession (No classes)	Week 15	April 10-16, 2023	
(INO CIGOSES)	Week 16	April 17-23, 2023	Saturday, April 22, 2023 Hari Raya Puasa Observed* No Classes
	Week 17	April 24-30 2023	

# AY 2022/2023 Trimester 3 (Summer 2023)

WI	EEK	DATE	REMARKS/DEADLINE
Study Weeks	Week 1	May 1-7, 2023	Monday, May 1, 2023 Labour Day Observed* No Classes  Tuesday, May 2, 2023 Classes begin
	Week 2	May 8-14, 2023	Sunday, May 14, 2023 Last day to add or drop a module for AY2022/2023 Trimester 3 (Summer 2023). Withdrawal from a module or the Institute on and before this date will not receive any academic penalty.
	Week 3	May 15-21, 2023	
	Week 4	May 22-28, 2023	
	Week 5	May 29-June 4, 2023	Saturday, June 3, 2023 Vesak Day Observed* No Classes
	Week 6	June 5-11, 2023	
Recess Week (No classes)	Week 7	June 12-18, 2023	Sunday, June 18, 2023 Last day to drop a module for AY2022/2023 Trimester 3 (Summer 2023). Withdrawal from a module or the Institute on and before this date will receive a "W" grade on transcript.
Study Weeks	Week 8	June 19-25, 2023	
	Week 9	June 26-July 2, 2023	Thursday, June 29, 2023 Hari Raya Haji Observed* No Classes
	Week 10	July 3-9, 2023	
	Week 11	July 10-16, 2023	
	Week 12	July 17-23, 2023	
	Week 13	July 24-30, 2023	
Final Assessment	Week 14	July 31-August 6, 2023	Friday, August 18, 2023 Last day of Trimester
Intersession (No classes)	Week 15	August 7-13, 2023	Wednesday, 9 August 2023 National Day Observed* No Assessments
	Week 16	August 14-20, 2023	
	Week 17	August 21-27, 2023	

<sup>\*</sup>Singapore Public Holiday

The Institute is closed on all public holidays. If a public holiday falls on a Sunday, the following Monday will be a public holiday. Singapore public holidays that fall during normal intersessions (i.e. Christmas Day) have not been listed. Exam periods and breaks may be subject to change. The laboratory facilities may be closed for a period of two consecutive days per month for maintenance, usually at the last two working days of the month unless otherwise posted.

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### **Contact Information**

# Name of the School (Branch Campus)

DigiPen Institute of Technology Singapore

#### **CONTACT INFORMATION**

DigiPen Institute of Technology Singapore 510 Dover Road, #03-01 SIT@SP Building Singapore 139660 Telephone: (65) 6577 1900

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## Campus List

#### **MAIN CAMPUS**

DigiPen Institute of Technology 9931 Willows Road NE Redmond, WA 98052 USA

Telephone: (866) 478-5236 or (425) 558-0299

Facsimile: (425) 558-0378 Email: *info@digipen.edu* Web: *digipen.edu* 

#### **BRANCH CAMPUSES**

DigiPen Institute of Technology Singapore 510 Dover Road, #03-01 SIT@SP Building Singapore 139660

DigiPen Institute of Technology Europe-Bilbao Beta1 – Ribera de Zorrozaurre, 2 48017 Bilbao (Bizkaia), Spain

# Programs of Study Offered

Currently, the Institute offers the following degree programs:

- Bachelor of Arts in User Experience and Game Design
- Bachelor of Fine Arts in Digital Art and Animation
- Master of Science in Computer Vision

# Joint Programs of Study Offered in Collaboration with SIT

Currently, the Institute offers the following joint degree programs:

- Bachelor of Science in Computer Science in Real-Time Interactive Simulation
- Bachelor of Science in Computer Science in Interactive Media and Game Development
- · Bachelor of Engineering in Mechatronics Systems

Selected courses, as indicated in each program's Recommended Course Sequence, are conducted at Singapore Institute of Technology, 10 Dover Drive, Singapore 138683

# Master of Science in **Computer Vision**

## Program Overview

Computer vision is an exciting and dynamic field of study that aims to make computers become smart by seeing the real word in real-time. More specifically, computer vision is the design and development of algorithms, methodologies, and systems that process and understand digital images and videos generated by digital cameras attached to computers and other devices. Real-time computer vision algorithms, techniques, and systems using deep learning techniques have been demonstrated in a variety of applications spanning a large number of industries and fields ranging from industrial automation, unmanned vehicles, medical diagnoses, big data analysis, surveillance, and security. As digital cameras become more inexpensive and more sophisticated, they are being deployed in larger numbers of devices and applications. To keep pace with these developments, there is a greater need for scientists and engineers trained in the field of computer vision to develop applications that can be of benefit to mankind.

DigiPen Institute of Technology has been teaching the Bachelor of Science in Computer Science in Real-Time Interactive Simulation and Bachelor of Science in Computer Science and Game Design since 1998. This degree provides both academic and practical training for programming computer games. It has been highly successful, and DigiPen has received much recognition for this achievement and for the achievements of its alumni in the industry. Building on this success, the Institute offers a Master of Science in Computer Vision to meet the postgraduate education need in the areas of computer vision and multimedia.

Currently, practitioners of computer vision systems face a daunting set of pre-requisite knowledge in: mathematics and statistics and their use in designing and developing computer vision algorithms; programming languages and data analysis tools used in developing computer vision pipelines; large-scale computation and associated big data frameworks for developing practical applications.

At the undergraduate level, most computer science departments in universities provide introductory courses in machine learning algorithms and methodologies. Although digital cameras are increasingly prevalent in most digital devices, computer vision is considered too specialized for undergraduate programs. There is not enough time in an undergraduate program to provide pre-requisite courses in digital image processing and digital imaging methods before offering computer vision. Furthermore, it is not feasible for undergraduate computer science programs to provide students the foundational mathematical knowledge required to understand computer vision. At most universities, only PhD degree candidates have the pre-requisite knowledge in mathematics and statistics to undertake studies in computer vision.

The availability of open-source software and online tutorials has democratized the use of machine learning and computer vision. Practitioners can benefit from this democratization by using off-the-shelf tools to gain insights from data. With a more sophisticated background in the mathematics and science of computer vision, practitioners can understand the benefits and limits of certain methods, and to extend and generalize existing computer vision algorithms. Further, as computer vision is applied to new domains, developers of computer vision techniques must develop new techniques and extend existing algorithms. The increasing prevalence of computer vision requires practitioners to apply more rigorous reasoning and thinking about important questions involving ethics, fairness, and privacy of individuals. Thus, there is a great need in society for practitioners and researchers who are able to design and develop novel approaches for attacking the many challenges of learning from images and videos. The proposed master's program is carefully designed to fill the existing knowledge gap in practitioners with undergraduate computer science degrees and cater to the increasing demands for such practitioners.

This program specializes in computer vision and is designed to attract talented students who have recently graduated with a bachelor's degree in one of the following disciplines:

- · Computer Science
- Computer Engineering
- · Mathematics or Statistics
- Any general engineering field, along with some experience in computer programming

This graduate program at DigiPen provides an opportunity for students to expand their knowledge of academic fundamentals in computer vision and machine learning. Students who successfully complete this master's degree program will possess and/or improve the following professional skills:

- In-depth foundation in mathematics and statistics that are used in computer vision algorithms including linear algebra, probability, numerical methods, graphical models, and numerical computations.
- · Solid hands-on experience on computer vision and machine learning algorithms, including image transforms and filtering, low-level image analysis, morphological operations, texture analysis, object tracking, background modeling, image/video compression, feature extraction and generation, supervised and unsupervised algorithms, setting-up and tuning deep learning frameworks for learning computer vision tasks.
- Advanced knowledge in computer vision, including advanced topics like camera calibration, 3D reconstruction, object detection and recognition, contentbased image retrieval, and hardware platforms for computer vision.

- Setup and configure Convolutional Neural Network architectures and models, gain hands-on experience on popular deep learning models like Recurrent Neural Networks, Deep Reinforcement Learning, Generative Models, Un-supervised Models and Graph Neural Networks.
- Strong capability of academic research in the area of computer vision and machine learning, including image processing algorithms, frequency domain processing, spatio-temporal feature extraction and processing, object tracking and recognition, supervised and unsupervised algorithms, clustering images, and deep-learning frameworks for computer vision tasks.

### Career Outcomes

Real-time computer vision algorithms, techniques, and systems using deep learning techniques have been demonstrated in a variety of applications spanning a large number of industries and fields ranging from industrial automation, unmanned vehicles, medical diagnoses, big data analysis, surveillance, and security. As digital cameras become more inexpensive and more sophisticated, they are being deployed in larger numbers of devices and applications. To keep pace with these developments, there is a greater need for scientists and engineers trained in the field of computer vision to develop applications that can be of benefit to mankind. This graduate degree program prepares students specifically for advanced career choices and job opportunities in existing and emerging industries where skills in computer vision are in great demand. These include cyber-physical systems, social-media analytics, industry 4.0, medical imaging, just to name a few. Graduates of this program may attain occupations as computer vision engineer, software engineer, computer vision scientist, data scientist, R&D engineers, and AI programmers.

# Degree Requirements

#### NUMBER OF CREDITS AND GPA

The Master of Science in Computer Vision degree program requires completion of at least 31 semester credits with a grade "C" (or 2.0 quality points) or above in each course and a cumulative GPA of 3.0 or better. This full-time program typically spans for four trimesters of 14 weeks each. Students must complete the requirements for the degree in 30 months. All students must remain in continuous matriculation throughout the duration of their degree program. For candidates with a lack of experience in programming and mathematics, some articulation classes may be required.

#### **COMPUTER SCIENCE**

The following courses are required: MCV 5210, MCV 5172, MCV 5173, MCV 5174, MCV 5175, MCV 5176, and MCV 5177. (Total: 21 credits)

#### CAPSTONE PROJECT

The following courses are required: MCV 5910 and MCV 5911. (Total: 10 credits)

The capstone project allows students to advance their professional careers through a hands-on experience or practical application of their study. The capstone project emphasizes the practical aspect of a specific problem. After surveying the literature in a narrowly focused area of study, students shall select existing algorithm(s) to implement. They must also analyze and compare different approaches. This option also requires that students write a technical report and demonstrate the implementation of the algorithm(s) to the master project committee.

# Recommended Course Sequence for the Master of Science in Computer Vision Program

TRIMESTER	COURSE	COURSE TITLE	CREDITS	DELIVERY MODE
Trimester 1	MCV 5210	Mathematical Elements for Computer Vision	3	Online
	MCV 5172	Computer Vision	3	Online
	Trimester Total		6	
Trimester 2	MCV 5173	Machine Learning and Pattern Recognition	3	Online
	MCV 5174	Video Processing	3	Online
	Trimester Total		6	
Trimester 3	MCV 5175	Convolutional Neural Network	3	Face-to-face
	MCV 5176	Deep Learning Models	3	Face-to-face
	MCV 5910	Capstone Project (Phase-I)	4	Face-to-face
	Trimester Total		10	
Trimester 4	MCV 5177	Future Trends in Computer Vision (Seminar)	3	Face-to-face
	MCV 5911	Capstone Project (Phase-II)	6	Face-to-face
	Trimester Total		9	
Degree Total	MINIMUM CREDITS REQU	IRED)	31	

#### **DELIVERY MODE**

The modules in trimesters 1 and 2 are taught online, i.e., lecture contents are prerecorded in videos and published in the Moodle Learning Management System. In addition to prerecorded lectures, there will be weekly online interactions between students and the instructor to facilitate discussions of lecture contents, assignments, and tutorials. In addition, students will have an opportunity to interact and collaborate with other students. Recorded lectures and learning materials are published on the Moodle platform. Assessments including quizzes, exams and assignments are assessed online through Moodle. Online discussions and consultations are done through Microsoft Teams. The modules in the trimester 3 and 4 are taught like regular modules in the school. The students will have face-to-face lectures, quizzes and exams.

## **Course Listings**

## **Department of Computer** Science

## Computer Science Courses

MCV 5172 Computer Vision (3 credits)

Prerequisite(s): None

This course provides an intensive introduction to digital images, operations on images in real-time and interpreting the 3D information from images. Topics covered includes image formation, image manipulation, low-level image processing algorithms, pixel properties, morphological operations, image transformations, and image filtering. This course will also discuss advanced concepts including camera calibrations, image segmentation, object detection and recognition, content-based image retrieval, and hardware platforms for computer vision.

#### MCV 5173 Machine Learning and Pattern Recognition

(3 credits)

Prerequisite(s): None

The objective of this course is to teach a wide range of algorithms and techniques for pre-processing and extracting useful patterns from large data. Upon successful completion of this course, students will understand, implement, and be able to use several machine learning algorithms in their projects. The main topics that students will work with are classification, regression, clustering and dimensionality reduction techniques.

#### MCV 5174 Video Processing (3 credits)

Prerequisite(s): None

Digital cameras are being used to generate large amount of videos. Artificial Intelligence algorithms are used to understand the contents of these videos for applications like surveillance and security, machine vision, digital advertising, consumer and artistic applications, etc. In this course, you will understand the principles and tools used for analyzing videos automatically. Topics covered include video enhancement, object tracking and recognition, and video compression using spatio-temporal data.

#### MCV 5175 Convolutional Neural Network (3 credits)

Prerequisite(s): MCV 5173

Topics covered include convolutional neural network architecture, its learning algorithm gradient descent, optimizers, regularization, and state-of-the-art visual recognition CNN models. Students will learn to design convolutional neural network architectures and training procedures via hands-on assignments.

#### MCV 5176 Deep Learning Models (3 credits)

Prerequisite(s): MCV 5173

The aim of this course is to provide students' exposure to modern neural networks and their applications in computer vision. Topics covered include a variety of deep models including Recurrent Neural Networks, Deep Reinforcement Learning, Generative Models, Un-supervised Models and Graph Neural Networks. The course will emphasize theoretical and intuitive understanding to the extent possible. Topics covered in this course are relevant to most computer vision applications.

#### MCV 5177 Future Trends in Computer Vision (3 credits)

Prerequisite(s): MCV 5174, MCV 5175

Research in Computer Vision is experiencing rapid growth with large numbers of original scientific contributions and technical advances published in computer vision related conferences and journals. This course aims to provide a venue for students to identify research directions in computer vision and develop technical background in interdisciplinary applications of computer vision. The course also aims to inculcate more general skills related to reading and presenting research papers. Students will present one or more published papers based on an assigned research topic, write a course paper on that topic, and participate in class discussions.

#### MCV 5210 Mathematical Elements for Computer Vision

(3 credits)

Prerequisite(s): None

Computer vision is a field of Artificial Intelligence that solves real-world problems using data captured from cameras and other related sensors. A strong foundation in mathematics is required to model and solve real-world problems using computer vision. This course introduces the mathematical theory and tools required to understand topics in computer vision and machine learning. Topics from multivariate calculus, linear algebra, probability and statistics, and numerical methods will be covered to provide a theoretical basis for understanding advanced concepts in computer vision and machine learning.

## **Project Courses**

#### MCV5910 Capstone Project (Phase-I) (4 credits)

Prerequisite(s): MCV 5172, MCV 5173

This is a compulsory project module in which the student will propose a topic of interest and will implement it. There are two phases for the project: phase-I and phase-II. In the first phase of the project, the students will initiate the project by choosing the relevant topic and do their literature survey. At the end of trimester, the students will present their findings and their progress towards the capstone project. They will submit a detailed report of their findings and partial working prototype of their project. The students are evaluated based on their findings, level of project difficulty and depth of technical knowledge on the project topics, detailed project report and presentation.

#### MCV5911 Capstone Project (Phase-II) (6 credits)

Prerequisite(s): MCV 5172, MCV 5173, MCV 5910

In the second phase of the capstone project, student will complete their project based on the requirements specified in project's first phase. At the end of trimester, students will present a complete, working prototypes and a detailed technical report of their findings to the project committee. They will also make a technical presentation to the class and will be questioned by the project committee.

#### **Distance Education**

The program is offered through a blended learning with courses in trimesters 1 and 2 delivered via distance education and courses in trimester 3 and 4 delivered through face-to-face learning.

## **Delivery System**

DigiPen Institute of Technology Singapore uses Moodle as the Learning Management System (LMS) for both the face-to-face and distance education courses. The LMS system is accessible by any student with access to a computer and internet connection, or a smart phone. The faculty posts the course syllabus, which includes the course description, objectives, learning outcomes, textbooks and references, and an outline of a tentative schedule, to this site. In addition, this LMS system allows for instructors to post additional material such as references, examples, rubrics and other course requirements.

The LMS provides a weekly organization of the topics covered with a matching list of outside preparation assignments, such as readings from textbooks or other references. Assignments with a submission are added to a course website, including due dates and grading criteria.

The online sessions provide asynchronous lectures and use the synchronized time for discussion, questions, demonstrations and recitation. The lectures are pre-recorded in videos and published on Moodle. In addition to prerecorded lectures, there will be weekly online interactions between students and the instructor to facilitate discussions of lecture contents, assignments and tutorials. In addition, students will have an opportunity to interact and collaborate with other students. Online discussions and consultations are done through Microsoft Teams (MST). MST also enables asynchronous text discussions, sharing of recorded videos and class sessions, and shared notebooks.

# Admissions Requirements

Applicants must demonstrate that they meet the admission requirements for the program, that they are familiar with the technology required for distance education and that they have the requisite competencies to be successful in a distance learning environment. They demonstrate these qualifications through the satisfactory completion of a Distance Education Readiness Assessment.

# Prerequisites for Participation

Students are required to complete a Distance Education Readiness Assessment to confirm their aptitude for distance education. This assessment includes questions designed to determine students' familiarity with the required technology, their self-motivation and their time-management skills. They are also required to affirm that they have access to the equipment and broadband access necessary to succeed in distance education. All students are offered an online

orientation session to familiarize them with the school's Learning Management System and video-conferencing software and to configure and test their hardware so that access during actual classes is smooth. The links to online resources are available at https://library. digipen.edu/opac/digipen/index.html#menuLinks

# Technology and Equipment Requirements

A headset (headphones and a microphone that reduces background noise)

A webcam that supports HD video

A computer that meets the following ideal specifications:

- · CPU: intel core 8th generation or better
- GPU: Nvidia GTX 1060 or better
- RAM: 16 GB
- Disk: 512GB ssd

Alternatively, a free cloud-based computing environment, Google's Colaboratory, can be utilised for both labs and assignments if the access to the right personal computing resources is not feasible.

A stable, reliable internet connection that supports 10 Mbps or higher downloads.

## **Expected Learning Outcomes**

The courses offered through face-to-face and distance education have the same expected learning outcomes.

## Student Services

The school offers the same student services that it offers for other degree programs. The modes of delivery of these services are to be conducted via video conferencing, phone or e-mail.

## Learning Resource System

The Learning Resource Center (LRC) subscribes to online resources to support distance education.

The online resources are accessible at all times and has a wide range of topics in science, technology, engineering and mathematics. Library has a collection of books, periodicals and provides basic equipment to support remote learning. Students are allowed to do their remote learning at the library, borrow and browse for reference materials. Students may contact the library for reference services or if they require additional learning materials via library email and by contacting the librarian via Microsoft Teams online chat.

### **Standards of Progress**

#### Credit Hour

DigiPen (Singapore)'s academic year comprises 3 trimesters. Each trimester has 14 weeks comprising 12 weeks of instruction, 1 week of study break and 1 week of examination period. The graduate degree program requires 31 credits for the award of the graduate degree and are delivered in modules. Each module is assigned a certain number of credits. The credit hour is a measure of student's workload and academic value of each module in a trimester, defines as follows:

- at least 15 hours of classroom contact, or
- · at least 22.5 hours of supervised laboratory time, or
- at least 45 hours of internship experience.

In addition, each credit also assumes:

 a minimum of 30 hours over the trimester for external preparation, project work, or homework by the student, except for independent studies or internship experience.

A classroom contact hour is 53 minutes in length.

Whenever "credit hour" is used in this Catalog, it is synonymous with "credit hour" and does not always represent "hours per week in class."

## **Grading System**

The following grading system is in use and, except where otherwise specified, applies to both examinations and homework assignments. The weight of a final examination grade is a matter individually determined by each instructor.

See the following Grade Point Average section for additional information.

GRADE	DESCRIPTION	QUALITY POINTS	EXPLANATION OF MINIMUM GRADE REQUIREMENT
Α	Excellent	4.0	
A-	Excellent	3.7	
B+	Good	3.3	
В	Good	3.0	
B-	Good	2.7	
C+	Fair	2.3	
С	Fair	2.0	minimum grade required for graduate students to earn credit.
C-	Fair	1.7	
D	Poor	1.0	
F	Failure	0	

The following grades do not affect the GPA:

#### **AU - AUDIT**

"AU" indicates that the student attended the course without expectation of receiving credit or a grade.

#### **IP - IN PROGRESS**

"IP" indicates that the grade was not available from the instructor at the time the transcript was printed.

#### I - INCOMPLETE

"I" is used when students have completed most of the required work for a course and submitted passing work, but circumstances beyond their control prohibit them from taking the final exam or completing coursework by the final due date. Students seeking an "Incomplete" must meet with a Student Life and Advising Officer to review the procedure and receive the request packet before the scheduled final examination, or the deadline of a final requirement such as a project.

Arrangements for the "I" grade and any make-up work must be initiated by the student and agreed to by the instructor. An Assignment of Final Grade for Completion of an Incomplete (I) form must be completed each time a grade of "I" is assigned. On the form, the instructor will specify to both the student and the department the work remaining to be done, the procedures for its completion, the grade in the course to date, and the weight to be assigned to work remaining to be done when the final grade is computed.

When the student completes the course, the instructor will submit a change of grade to the Registrar's Office no later than the end of the 14th calendar day of the following trimester. Should the make-up work not be completed within the agreed-upon time frame, DigiPen (Singapore) will assign a grade of "F" (or 0 quality points).

These procedures cannot be used to repeat a course for a different grade. An "I" grade will not be assigned to a student who never attended class; instead, instructors may assign a failing grade.

#### W - WITHDRAWAL

"W" indicates withdrawal from the course or withdrawal from DigiPen (Singapore) after the 14th day and by 59th day of the trimester. The grade of "W" will not be assigned to any student who has taken the final examination in the course. Withdrawal from a course is a process initiated by the student.

#### P - PASS

"P" is given for internship, seminar, and thesis courses.

#### NP - NO PASS

"NP" is given for courses where a letter grade is not required. "NP" means that the student has not successfully completed the requirements of the course, but there is no impact on the GPA.

## **Assessment Process**

DigiPen (Singapore) has an assessment process to evaluate the defined student learning outcomes of the education and training and established competencies. This process includes a combination of methods such as grading, portfolio assessment, projects, internships, and criterion-referenced testing based on developed and appropriate rubrics. Each module syllabus contains clearly defined module objectives and learning outcomes, module requirements, grading policy and allotment, and grading distribution. Students are made aware of the grading policy, performance standards, and grading distribution at the beginning of each module. The faculty measures the student's achievement of the stated module objectives and learning outcomes based on the grading policy published in the module syllabus.

## Grade Reports

Reports of the final grade in each course will be made available online to students soon after the close of each trimester. However, grade reports may be withheld from students who have delinquent accounts with the DigiPen (Singapore) Finance Office, Facilities, or the Library.

## Grade Point Average

The academic standing of each student is determined on the basis of the grade point average (GPA) earned each trimester.

The GPA is determined by using the quality points assigned to each course grade a student earns. The quality point value for each grade earned during a trimester is multiplied by the number of credit hours assigned to that course as listed elsewhere in this catalog. The sum of these points is the total number of quality points earned during the trimester. This sum is divided by the number of credit hours attempted (hours from courses with grades of "A" [or 4.0 quality points] through "F" [or 0 quality points]) to obtain the GPA.

The cumulative GPA consists of all courses completed at DigiPen (Singapore). If multiple attempts were made for the same course, only the grades earned in the two most recently completed attempts are calculated in the cumulative GPA. Course grades of "AU," "I," "W," "P," and "NP" are non-punitive grades, so they are not calculated in the overall GPA since they carry no quality points.

The following example demonstrates how GPA is calculated:

COURSE	CREDITS	GRADE	POINTS
MCV 5910	4	А	16.0 (4 x 4.0)
MCV 5210	3	C+	6.9 (3 x 2.3)
MCV 5172	3	В	9.0 (3 x 3.0)
MCV 5174	3	D	3.0 (3 x 1.0)
TOTAL	13		34.9

Total grade points divided by total credits equals the cumulative grade point average. Therefore, the grade point average for the above example is 34.9 divided by 13 for a **2.68 GPA**.

## **Appeals**

Appeals involving extenuating circumstances may be addressed to the Student Life and Advising Office for action and resolution

## Graduation Requirements

Degrees will be granted at the end of the trimester in which students complete:

- All program course requirements and minimum number of credits required for their program within the maximum candidature.
  - a. A program of study must be completed within a reasonable period of time for a student to be eligible for graduation. The Institute defines "reasonable time" as: 30 months for graduate degree and the credit hours attempted cannot exceed 1.5 times the credit hours to complete the program. Students who do not complete their studies during this maximum time frame will be placed on Academic Warning and will have to complete their program requirements under the conditions of their Academic Warning. For more information, please see the Academic Warning section.
- 2. GPA requirement for graduation.
  - a. All graduate students must have a cumulative GPA of at least 3.0 to graduate.
- 3. Fulfillment of financial aid obligations to the school.

# Graduating with Academic Honors

DigiPen Institute of Technology Singapore recognizes and commends students whose cumulative GPA indicates distinguished academic accomplishment upon the completion of the program.

Graduate students who graduate with a cumulative GPA of 3.7 or above are recognized as Graduating with Distinction.

## Academic Warning

Any student who fails to maintain the required minimum cumulative GPA, or who fails to complete their academic program within the maximum attempted credits allowed, will be placed on Academic Warning.

#### FAILING TO MEET MINIMUM GPA REQUIREMENT

Graduate students are required to maintain a cumulative GPA of 3.0 or better. If a student's cumulative GPA falls below 3.0, then the student will be placed on Academic Warning. Students placed on Academic Warning must earn a GPA of

3.0 or better in graduate level coursework in a subsequent trimester until the cumulative GPA is improved to 3.0 or better.

Students who fail to attain a 3.0 GPA or better in graduatelevel coursework during any subsequent trimester while on Academic Warning will be academically withdrawn. Withdrawn students may apply for readmission after a 12-month period.

#### FAILING TO COMPLETE PROGRAM WITHIN THE MAXIMUM TIME FRAME

Students who fail to complete their degree program within the maximum candidature of 30 months or exceeded 1.5 times the credit hours to complete the program, will be placed on Academic Warning to direct them towards completion. Working with their academic advisor, these students will develop a program completion plan that outlines the quickest path to completion. These students will be held to the same conditions as outlined above, with the exception that the maximum credit load per trimester is waived.

## Grade Changes and Appeals

Only the faculty member who administered the grade may make grade changes. In cases where the faculty member is not available to consider a grade change, the department chair, in consultation with the Provost, may make such a change.

#### **GRADE APPEAL PROCESS**

- 1. Students who would like to dispute their final grade should first contact and discuss their concerns with the instructor of that course. If a satisfactory resolution is unattainable, the student may file a grade appeal.
- 2. Students must submit their grade appeal within two business days from the final grade posting date (typically the Tuesday after finals week). Failure to check grades until a later date is not an acceptable reason to delay the grade appeal process.
- 3. Appeals must be submitted to registrar.sg@digipen.edu.
- 4. To be considered for an appeal the student must explain, in writing, any procedural error or omission that impacted their academic performance during the course such as substantiated bias or material deviation from established procedures.
- 5. The student's appeal will be reviewed by the Provost (or designee) and a decision and response will be sent to the student's DigiPen email account within three business days of the date the appeal was received.
- 6. If the appeal is granted, the student's course grade will be updated. If the appeal is denied, the student's course grade will remain unchanged. The decision may also be remanded to the course instructor with additional direction.

### Repeating Courses

A student may attempt a course up to three times in an effort to earn a passing grade. If a student fails to pass the course within three attempts, the student will be placed on academic warning. Upon failing the fourth attempt of a course, the student will be academically withdrawn. Withdrawals from courses are considered attempts. All grades and attempted courses remain on a student's transcript. However, only the grade earned in the most recent attempt of a course is calculated in a student's Cumulative GPA.

## Institutional Attendance Policy

Attendance is recognized as an important component to the learning process in higher education. As an attendance taking institution, DigiPen Institute of Technology Singapore is required, by the ACCSC accrediting body, to publish and enforce a policy of acceptable student attendance. The attendance policy must be consistently applied and enforced. Student class attendance is accurately recorded to ensure that the required knowledge, skills, and competencies can be reasonably achieved.

- Students are expected to attend all classes in a timely manner
- Students more than 15 minutes late to class will be marked as absent for that entire class.
- Students may not leave class early without instructor's permission.
- The instructor must list class tardy/absent guidelines in the syllabus, and mark student attendance accordingly
- Students absent from all classes for a period of 14 consecutive days may be withdrawn from the Institute as of their last day of attendance.
  - · Unexcused Absences from any one class for 14 consecutive days may result in administrative withdrawal from that class, as of the last day of attendance.
  - · Consecutive absences are counted before and after holidays, as one continuous period. Holiday does not constitute a restart.
  - To achieve optimal learning experience, absences (unexcused/excused) should not exceed 20% of total required class sessions during any trimester.
  - Absences of more than 20% may require advising by the Student Life & Advising officer and/or the Instructor.

## **Excused Absence Policy**

The Institute understands that there are circumstances which may substantiate reasons for absences.

Students may be excused from classes due to sickness, demise of an immediate family member, military services or representing the Institute in external events, provided that these absences are supported with valid documentary proof issued by relevant authorities, i.e. the Medical Certificate (MC) must be issued by a medical practitioner / dentist registered with the Singapore Medical/Dental Council and should cover the period of sick leave. Submissions should be done within seven days via SRS. Late submissions will not be accepted unless there are extenuating circumstances.

Students who are medically unwell and absent from an examination, an MC must be submitted within 24 hours of he missed examination. In the event of a serious illness or hospitalization, family members may submit the MC/ doctor's letter to the Registrar's Office on the student's behalf during office hours, or email a scanned copy of the document to registrar.sg@digipen.edu. Failure to do so or late submissions will not be accepted unless there are extenuating circumstances.

- Excused absences cannot be approved for more than 14 consecutive calendar days without going through an appeal process.
- · Students who miss a significant amount of their classes, may need to discuss alternative options (e.g. Incomplete, Course Withdrawal, Hardship Withdrawal) with the instructor and/or Student Life & Advising Officer, if completing course outcomes is no longer attainable.
- · Students missing class due to complications from a disability, or due to an illness or situation beyond the student's control, must inform the instructor as soon as reasonably possible.
  - It is up to the Instructor's discretion to excuse the student and to require further written evidence substantiating the reason for the absence.
    - This decision must be documented and maintained by the instructor for compliance with regulatory requirements.
  - It is strongly suggested that instructors contact DSS with questions related to accommodations and excused absence requests for documented disabilities.
  - · Flexibility in attendance does not mean that course outcomes are waived or altered.
  - · Attendance leniency accommodations may be implemented differently in each course, depending on how significant class attendance is considered, as a part of participatory learning in a particular class.

#### Withdrawal

#### WITHDRAWING FROM INDIVIDUAL MODULES

To withdraw from individual modules without any academic penalty or tuition fee incurred, a student must submit a drop request through the Students Record System (SRS) by the 14th calendar day of a trimester. Upon successful application, no modules entries will appear on the student's transcript for that trimester.

To withdraw from individual modules and receive "W" grade, a student must submit a drop request through the SRS by the 49th calendar day of a trimester. Upon successful application, a final grade of "W" will be assigned to the requested module.

#### WITHDRAWING FROM THE INSTITUTE

To formally withdraw from the Institute, a student must submit an Institution Withdrawal form and attend an exit interview conducted by the Student Life and Advising Officer.

Upon withdrawing from DigiPen (Singapore), the student shall immediately return all materials in the student's possession relating to the program, whether created by the student or other students or provided by the Institute. A letter of notification would be provided to student via email upon completion of the withdrawal process.

International student should surrender the Student's Pass (STP) card to Immigration & Checkpoints Authority within seven days upon issuance of the letter of notification.

The following shows the grade received upon withdrawal from the institute at various period of a trimester:

CALENDAR DAY OF A TRIMESTER	GRADE ASSIGNED	INCLUDED IN THE COMPUTATION OF CGPA
1st to 14th	Modules withdrawn, no grades assigned	No
15th to 49th	"W" Grade	No
50th to end of trimester	Final grade ("A" to "F")	Yes

#### HARDSHIP WITHDRAWAL

Students may seek a hardship withdrawal when one of three conditions prevents a student from completing all modules: death of a close family member, severe/terminal illness in the family, or injury or illness that incapacitates the student. Hardship withdrawals may be sought any time after the last date to withdraw from classes, as listed in the Academic Calendar, but not after all materials for a module have been completed (i.e., after submitting the final exam or final assignment). The Hardship Withdrawal Form, a personal statement, and appropriate documentation (i.e., death certificate, obituary, letter from a state-licensed physician or mental health professional) must be provided to support all requests to the Student Life and Advising Office. Once all documents are received, the Student Life and Advising Office will forward the documents to the Hardship Withdrawal Review Committee. If the committee grants a hardship withdrawal, the student will receive "W" grades in all approved modules and is ineligible to receive a letter grade in any module in that trimester. The student will be withdrawn from DigiPen (Singapore), effective the student's last day of attendance. Students seeking readmission must abide by the Institute's readmission policy.

## Grievances and Appeals

#### CONCERNS OVER ACADEMIC STANDING

Students who would like to file an appeal against a decision regarding their academic standing in a particular module should discuss the matter with their instructor. If a satisfactory resolution is unattainable, students may file an appeal with the Department Chair for that module. If the resultant solution is still unsatisfactory, then students may file an appeal with the Provost. Students may appeal grades and review exams no later than two weeks after grade reports are issued. The Institute reserves the right to destroy any examination papers after the two-week appeal period. However, academic records will be kept indefinitely.

#### **Other Disputes**

Students who feel that they have any other type of dispute with the Institute should file a complaint with the relevant Department Chair or supervisor. A copy of this complaint shall be given to those involved with the dispute. If the student is not satisfied with the decision of the Department Chair or supervisor, a second complaint may be submitted to the Chief Operating Officer—International. If the student is still dissatisfied with the decision, they may appeal to the President of the Institute.

Schools accredited by the Accrediting Commission of Career Schools and Colleges must have a procedure and operational plan for handling student complaints. If a student does not feel that the school has adequately addressed a complaint or concern, the student may consider contacting the Accrediting Commission. All complaints reviewed by the Commission must be in written form and should grant permission for the Commission to forward a copy of the complaint to the school for a response. This can be accomplished by filing the ACCSC Complaint Form. The complainant(s) will be kept informed as to the status of the complaint as well as the final resolution by the Commission. Please direct all inquiries to:

Accrediting Commission of Career Schools and Colleges 2101 Wilson Boulevard Suite 302 Arlington, VA 22201 Tel: (703) 247-4212

www.accsc.org | complaints@accsc.org

A copy of the ACCSC Complaint Form is available at the school and may be obtained by contacting complaints@accsc.org or at https://www.accsc.org/StudentCorner/Complaints.aspx.

### **Transcripts**

If a student's financial obligation is not fulfilled, the Institute is authorized to do the following until the owed monies are paid: withhold the routine release of the student's academic records or any information based upon the records, and withhold the issue of the student's transcripts. Students with any questions may contact the Registrar's Office at +65 6577 1900. To request an official transcript, students should complete a Transcript Request Form (available online or from the Registrar's Office) and either mail, scan, or fax it to the Registrar's Office. Requests are usually processed within five to seven business days. Grade reports can be viewed or printed as unofficial transcripts using the Student Record System (SRS)

### **Examinations**

All students are required to be in attendance at the times scheduled by the Institute for final exams. Instructors are not required to make arrangements for individuals to take final exams at a different time than the rest of the class. Should a student miss an exam, it is the student's responsibility to notify the instructor in writing within 24 hours of the missed exam. In the event that a student fails to provide such notification to an instructor, or if the Institute does not find the reasons for missing an exam justifiable, the student will be given a failing grade for the exam(s).

If a student misses a final exam and notifies the instructor within 24 hours of the missed exam, the Registrar's Office shall review the individual circumstances. Only documented emergencies will be considered acceptable reasons for missing exams. Exam retakes shall be allowed at the sole discretion of the Registrar's Office and Department Chair. Examples of unacceptable reasons for missing an exam include the demands of a time-consuming job, the desire to leave town for a vacation or family gathering, the desire to do well on tests in other courses, etc.

A retaken exam shall be different than the original one taken by the other students of the class, and the timing of it shall be at the sole discretion of the individual instructor. In all cases, retakes shall be administered no later than one week after the original, missed exam.

#### **General Information**

### Institutional Mission

DigiPen Institute of Technology Singapore provides exemplary education and furthers research and innovation in science, engineering, arts, digital media, and interactive computer technologies. Building on a foundation of academics, applied learning, industry knowledge, and multi-disciplinary teambased collaboration, we inspire our students to pursue lifelong learning as well as scientific and creative exploration, and empower them to become leaders and originators on a global level.

#### Notice of Non-Discrimination

DigiPen Institute of Technology Singapore is committed to maintaining a diverse community in an atmosphere of mutual respect for and appreciation of differences.

DigiPen Institute of Technology Singapore does not discriminate in its educational and employment policies on the basis of race, color, creed, religion, national/ethnic origin, sex, sexual orientation, or age.

#### Accreditation

DigiPen Institute of Technology is accredited by the Accrediting Commission of Career Schools and Colleges ("ACCSC", or "the Commission"), a recognized accrediting agency by the United States Department of Education.

The Bachelor of Science in Computer Engineering program offered at Redmond campus is accredited by the Engineering Accreditation Commission of ABET, www.abet.org. This accreditation action extends retroactively from October 1, 2012.

The Bachelor of Science in Computer Science in Real-Time Interactive Simulation program offered at the Redmond campus is accredited by the Computing Accreditation Commission of ABET, <a href="https://www.abet.org">www.abet.org</a>. This accreditation action extends retroactively from October 1, 2015.

Important dates in DigiPen's accreditation history are as follows:

- 2002: DigiPen was granted initial accreditation by ACCSC, including the approval for the Bachelor of Science in Real-Time Interactive Simulation degree program.
- 2002: DigiPen received ACCSC approval for the Bachelor of Fine Arts in Production Animation degree program.
- 2003: DigiPen received ACCSC approval for the Bachelor of Science in Computer Engineering degree program.
- 2005: DigiPen was granted a renewal of accreditation by ACCSC.
- 2006: DigiPen was granted approval for its Master of Science in Computer Science degree program by ACCSC.

- 2008: DigiPen was granted approval for its Bachelor of Arts in Game Design and Bachelor of Science in Game Design degree programs by ACCSC.
- 2010: DigiPen was granted approval for its change of location to its current facility by ACCSC.
- 2010: DigiPen received ACCSC approval allowing DigiPen (Singapore) to disclose in its advertising that it is a branch campus of DigiPen Institute of Technology.
- 2010: DigiPen was granted approval to change the program name from the Bachelor of Fine Arts in Production Animation to the Bachelor of Fine Arts in Digital Art and Animation.
- 2011: DigiPen was granted approval to change the program name from the Bachelor of Science in Real-Time Interactive Simulation to the Bachelor of Science in Computer Science in Real-Time Interactive Simulation.
- 2011: DigiPen (Singapore) was granted accreditation by ACCSC as a branch campus of the main school located in Redmond, Washington, USA.
- 2011: DigiPen was granted approval for its Master of Fine Arts in Digital Arts degree program by ACCSC.
- 2012: DigiPen was granted approval for its Bachelor of Arts in Music and Sound Design and Bachelor of Science in Engineering and Sound Design degree programs by ACCSC.
- 2012: DigiPen was granted approval to change the program name from the Bachelor of Science in Game Design to the Bachelor of Science in Computer Science and Game Design.
- 2013: DigiPen (Singapore) was granted ACCSC renewal of accreditation for five years.
- 2014: DigiPen was granted approval for its Bachelor of Science in Computer Science degree program by ACCSC.
- 2014: DigiPen (Singapore) was granted approval for its first joint degree program with Singapore Institute of Technology, Bachelor of Engineering with Honours in Systems Engineering (ElectroMechanical Systems).
- 2015: DigiPen (Singapore) was granted approval for its change of location to its current facility by ACCSC.
- 2015: DigiPen's Bachelor of Science in Computer Engineering program offered at the Redmond campus was accredited by the Engineering Accreditation Commission of ABET, www.abet.org.
- 2016: DigiPen was granted approval to change the program name from the Bachelor of Science in Engineering and Sound Design to the Bachelor of Science in Computer Science and Digital Audio.
- 2016: DigiPen was granted approval for its substantive changes to the Master of Fine Arts in Digital Arts program.
- 2017: DigiPen's Bachelor of Science in Computer Science in Real-Time Interactive Simulation program offered at the Redmond campus was accredited by the Computing Accreditation Commission of ABET, www.abet.org.
- 2018: DigiPen was granted approval for its Bachelor of Science in Computer Science in Machine Learning degree program by ACCSC.
- 2018: DigiPen (Singapore) was granted ACCSC renewal of accreditation for five years.
- 2019: DigiPen (Singapore) was granted approval to change the program name from Bachelor of Engineering with Honours in Systems Engineering (ElectroMechanical

Systems) to Bachelor of Engineering in Systems Engineering (ElectroMechanical Systems).

- 2019: DigiPen (Singapore) was granted approval for two joint degree programs with Singapore Institute of Technology (BS in Computer Science in Real-Time Interactive Simulation) and BS in Computer Science in Interactive Media and Game Development), and the Master of Science in Computer Vision degree program by ACCSC.
- 2020: DigiPen was granted approval to offer a portion of degree programs via distance education.
- 2020: DigiPen (Singapore) was granted approval to change the program name from Bachelor of Engineering in Systems Engineering (ElectroMechanical Systems) to Bachelor of Engineering in Mechatronics Systems.
- 2021: DigiPen was granted ACCSC approval for its Master of Arts in Real-Time Visual Effects degree program to be delivered via distance education.
- 2021: DigiPen was granted ACCSC approval for its Master of Science in Computer Science degree program to be delivered via distance education.
- 2022: DigiPen Europe-Bilbao was granted accreditation by ACCSC as a branch campus of the main school located in Redmond, Washington, USA.

Any person desiring information about the accreditation requirements or the applicability of these requirements to the Institute may contact ACCSC by mail at 2101 Wilson Boulevard, Suite 302, Arlington, VA 22201, or by phone at (703) 247-4212. ACCSC's website address is *www.accsc.org*.

# History of DigiPen Institute of Technology

DigiPen was founded in 1988 as a computer simulation and animation company based in Vancouver, British Columbia, Canada. As the demand for production work increased, DigiPen faced difficulty finding qualified personnel, and in 1990, it began offering a dedicated training program in 3D computer animation to meet this growing need.

That same year, DigiPen approached Nintendo of America to jointly establish a post-secondary program in video game programming. The result of this collaborative effort was the DigiPen Applied Computer Graphics School. In 1994, it officially accepted its first class of video game programming students to its Vancouver campus for the two-year Diploma in the Art and Science of 2D and 3D Video Game Programming. In 1995, DigiPen implemented a revised two-year 3D computer animation program and graduated student cohorts over each of the following four years.

Around this time, the video game industry underwent a paradigm shift from dealing primarily with 2D graphics and gameplay to full 3D worlds that players could freely explore. As these worlds became more sophisticated, so did the task of programming, designing, and animating them. In anticipation of this change, DigiPen developed a four-year bachelor's degree in video game programming (the Bachelor of Science

in Computer Science in Real-Time Interactive Simulation) to prepare students for the challenges of creating complex 3D game and simulation software.

In 1996, the Washington State Higher Education Coordinating Board (HECB) granted DigiPen the authorization to award both Associate and Bachelor of Science degrees in Real-Time Interactive Simulation. Two years later, in 1998, DigiPen Institute of Technology opened its campus in Redmond, Washington, USA. In 1999, DigiPen began offering the Associate of Applied Arts in 3D Computer Animation. At this time, DigiPen phased out its educational activities in Canada, moving all operations to its Redmond campus. On July 22, 2000, DigiPen held its first commencement ceremony, where it awarded Associate of Science and Bachelor of Science degrees.

In 2002, DigiPen received accreditation from the Accrediting Commission of Career Schools and Colleges (ACCSC). In 2004, DigiPen began offering three new degrees: the Bachelor of Science in Computer Engineering, the Master of Science in Computer Science\*, and the Bachelor of Fine Arts in Digital Art and Animation (previously Bachelor of Fine Arts in Production Animation). In 2008, DigiPen added two more degree programs: the Bachelor of Science in Computer Science and Game Design (previously Bachelor of Science in Game Design) and the Bachelor of Arts in Game Design.

Also in 2008, DigiPen partnered with Singapore's Economic Development Board to open its first international branch campus, offering the following degrees: the Bachelor of Science in Computer Science in Real-Time Interactive Simulation (previously Bachelor of Science in Real-Time Interactive Simulation), the Bachelor of Science in Computer Science and Game Design, the Bachelor of Fine Arts in Digital Art and Animation, and the Bachelor of Arts in Game Design. In 2010, DigiPen announced plans to open its first European campus in Bilbao, Spain.

That same year, DigiPen relocated its U.S. campus to its current location at 9931 Willows Road Northeast in Redmond, Washington.

On September 26, 2011, DigiPen launched DigiPen Institute of Technology Europe-Bilbao, offering two bachelor's degree programs: the Bachelor of Science in Computer Science in Real-Time Interactive Simulation and the Bachelor of Fine Arts in Digital Art and Animation.

On October 11, 2011, DigiPen (Singapore) was granted accreditation by ACCSC as a branch campus of the main school located in Redmond, Washington, USA.

In 2012, DigiPen added three new degree programs: the Bachelor of Arts in Music and Sound Design, the Bachelor of Science in Computer Science and Digital Audio (previously Bachelor of Science in Engineering and Sound Design), and the Master of Fine Arts in Digital Arts.

In 2014, DigiPen added a new degree program: the Bachelor of Science in Computer Science. In that same year, DigiPen (Singapore) received approval for the Bachelor of Engineering

(with Honours) in Systems Engineering (ElectroMechanical Systems) degree program.

In 2015, The Bachelor of Science in Computer Engineering program offered at the Redmond campus was accredited by the Engineering Accreditation Commission of ABET, <a href="https://www.abet.org">www.abet.org</a>. This accreditation action extends retroactively from October 1, 2012

In 2015, DigiPen (Singapore) was approved to move from Pixel Building, 10 Central Exchange Green, to SIT@SP Building, 510 Dover Road.

In 2017, The Bachelor of Science in Computer Science in Real-Time Interactive Simulation program offered at the Redmond campus was accredited by the Computing Accreditation Commission of ABET, *www.abet.org*. This accreditation action extends retroactively from October 1, 2015

In 2018, DigiPen added a new program: the BS in Computer Science in Machine Learning degree program. The first cohort is scheduled to start in Fall 2019.

In 2018, DigiPen (Singapore)'s B.Eng. in Systems Engineering (ElectroMechanical Systems) Program sought the provisional accreditation by the Engineering Accreditation Board (EAB) of IES for a term of three years for students entering the program from Academic Year 2014/2015.

In 2019, DigiPen (Singapore) was granted approval for its two joint degree programs with Singapore Institute of Technology, Bachelor of Science in Computer Science in Real-Time Interactive Simulation and Bachelor of Science in Computer Science in Interactive Media and Game Development. In addition, DigiPen (Singapore) was granted approval for its Master of Science in Computer Vision program.

In 2019, DigiPen (Singapore) was granted approval to change the program name from Bachelor of Arts in Game Design to Bachelor of Arts in User Experience and Game Design.

In 2020, DigiPen (Singapore) was granted approval to change the program name from Bachelor of Engineering in Systems Engineering (ElectroMechanical Systems) to Bachelor of Engineering in Mechatronics Systems.

In 2022, DigiPen Europe-Bilbao was granted accreditation by ACCSC as a branch campus of the main school located in Redmond, Washington, USA.

\*DigiPen began offering the MS in Computer Science program in 2004 before ACCSC expanded its scope of recognition by the United States Department of Education to grant approval for master's degree programs. ACCSC granted approval for this degree in 2006.

\*\*DigiPen's Malaysia campus does not fall within the scope of ACCSC accreditation.

# About DigiPen (Singapore)'s Facilities and Equipment

DigiPen (Singapore) encompasses over 2,960 square meters with a library, dedicated computer labs for students, and classrooms for lectures and instruction. The classrooms vary in size from lecture halls accommodating up to 80 students to small classrooms accommodating 60 students. The labs also vary in size from those accommodating 150 students to smaller ones seating 50 students.

The computer workstations provided at DigiPen are selected to meet or exceed the hardware specifications for required educational software. These computers are equipped with industry software for 2D and 3D animation production and development tools for game engine creation. All computers are on an internal network and have access to printers, servers, and archival media. The Institute upgrades the computer equipment on a periodic basis.

# Description of the Library Facilities and Internet Access

#### LIBRARY SERVICES

DigiPen (Singapore)'s library aims to support the Institute's curriculum, students, and faculty. Students have access to a variety of resources and reference books relevant to their program of study. The library also subscribes to a selection of major journals and magazines related to the fields of gaming, simulation, and animation. Furthermore, the library allocates an annual budget for updating the contents of the library. In addition to curriculum-related resources, the library has a collection of career-oriented materials, including books on resumes, cover letters, and interviews.

#### **INTERNET ACCESS**

Internet access is a regulated service and is provided for students free of charge. Students may lose this privilege if they do not abide by the *Network and Internet Usage Policy*.

# Student Network and Internet Usage Policy

#### **GENERAL POLICIES**

DigiPen (Singapore)'s computer and network resources are provided exclusively for educational purposes. To ensure that these resources remain available for legitimate academic usage, DigiPen (Singapore) requires compliance with the following policies:

- Students are required to respect the Institute's property.
   Students may not abuse, damage, vandalize, steal, or in any way alter the Institute's property in any manner that would prevent another student from using it.
- Students may not install software, drivers, patches, or any other program on the Institute's computers. Additional

software may be requested through an instructor; it is the sole responsibility of the Institute to decide if, how, and when any software is installed.

- Students are responsible for their own data and are encouraged to protect their work by utilizing the resources provided by DigiPen (Singapore) and by using a personal storage device such as a flash drive or laptop computer.
- Students may not attempt to access another student's information or display any material that may offend another student.
- Students may not copy, publish, or make available any DigiPen (Singapore)'s property without written consent.
   This includes, but is not limited to, storing materials on any unauthorized network service or personal server.
- Commercial use of DigiPen (Singapore)'s computer or network resources is expressly and strictly forbidden. Any commercial activity will result in legal action against the offender.

The Institute reserves the right to monitor, log, and inspect any data stored on any DigiPen computer or transmitted over the DigiPen network without restriction or limitation in order to ensure compliance with the above policies. Students found to be in violation of these policies may be restricted from the Institute's network and subject to disciplinary action.

## Internet Filter Policy

Internet access through the DigiPen (Singapore)'s network is filtered to ensure that students are better able to access information and materials related to their education. All internet traffic from within DigiPen (Singapore)'s network, including labs, classrooms, and administrative offices, are sent through a system of proxies, filters, and analyzers to protect school resources from outside disruption, prevent network abuse, and prioritize legitimate educational usage. For questions or concerns about this policy, or to report a problem with internet access, contact helpdesk.sg@digipen.edu.

# Applying to DigiPen (Singapore)

## Visiting DigiPen (Singapore)

DigiPen (Singapore) offers regular information sessions for the general public. Anyone interested in finding out more about DigiPen (Singapore) and its programs is welcome to attend. For information on dates and times for these events, please visit digipen.edu.sg/visit-us.

Visitors interested in learning about DigiPen (Singapore)'s admission requirements, application process, and degree programs are encouraged to schedule a meeting and school tour with an Admissions representative. To schedule an appointment, please visit *digipen.edu.sg/visit-us*.

One of the best ways to find out what DigiPen (Singapore) is like as a student is to spend a day on campus, attending classes and meeting students, faculty, and staff. Throughout the year, the Admissions Office can help prospective students arrange to shadow a current student. Most visitors will combine a student shadow with a one-on-one admissions meeting. Student shadow requests should be made at least one week in advance. To learn more about this program and to schedule a time for your visit, please visit *digipen.edu.sg/visit-us*.

## **Graduate Application Process**

The program takes a holistic approach in assessing applicants for admission by considering aspects including, academic results, passion, personal qualities, relevant work experience and internships, and co-curricular interests. All short-listed candidates may be assessed through interviews and written evaluation. Through an interview, candidate may be assessed on their passion and interests of the program, and their math and programming competency through a written evaluation. Applicants must complete a Distance Learning Readiness Assessment.

Since this program specializes in computer vision, students who are graduated with a bachelor's degree in one of the following disciplines are considered for admission:

- Computer Science
- · Computer Engineering
- Mathematics or Statistics
- Any general engineering field, along with some experience in computer programming

The graduate admissions process is administered by DigiPen (Singapore) and involves the following steps:

 Applicant applies and submits online application through DigiPen (Singapore)'s application portal.

- 2. Applicant makes payment for the application fee and submits their education records to DigiPen (Singapore).
- 3. Shortlisted applicants may be required to take an evaluation test and/or an interview.
- 4. All applicants are notified about their application status via email.
- 5. Successful applicants will receive an enrollment packet from DigiPen (Singapore).
- 6. Successful applicants who accept the enrollment packet within the deadline will then matriculate to DigiPen (Singapore).

For more information about the graduate admissions process, please contact DigiPen (Singapore)'s Graduate Admissions Office at masters.sg@digipen.edu.

All graduate applicants must submit the following documents:

- 1. All application forms must be submitted online through DigiPen (Singapore)'s SRS portal at https://management. digipen.edu/sg-srs-app/ApplicationMenu.aspx.
- 2. An application fee of S\$50 (exclusive of GST) will be payable to DigiPen (Singapore) along with the student's application.
- 3. Academic qualifications. The original documents of the applicant's academic history must be presented to DigiPen (Singapore) upon successful admission to the program. In-progress transcripts are acceptable if the students are currently completing their degree. Official transcripts from all colleges and universities attended should be sent directly to DigiPen (Singapore) by the issuing institutions. Students may, however, send the transcripts themselves if they are first sealed in an envelope and stamped across the seal by the issuing institution's registrar. Documents/transcripts that are not in English need to be translated and notarized before submission.
  - A bachelor's degree in one of the following disciplines:
    - a. Computer Science
    - b. Computer Engineering
    - c. Mathematics or Statistics
    - d. Any general engineering field, along with some experience in computer programming
  - Applicants must submit the following academic documents:
    - a. Certified true copy of diploma/bachelor's/master's degree certificates (if any).

- b. Certified true copy of the official transcripts of the diploma/bachelor's/master's degree.
- 4. Personal statement. Please see the Personal Statement section below for the requirements and recommendations about completing this important component of the application.
- 5. Letters of Recommendations. Two letters of recommendation from individuals familiar with the student's academic background and/or work ethic (e.g. instructor, guidance counselor, or employer) must be included. Recommendation letters from family members or relatives will not be considered.
- 6. General GRE/GATE Exam scores. Applicants who planned to take the Graduate Record Examinations (GRE) are encouraged to complete the GRE General Test and arrange for those scores to be sent directly to DigiPen Institute of Technology Singapore by the testing agency. Students applying to the MS in Computer Vision program should note that the preferred combined GRE verbal and math scores should be in the 70th percentile or better.
  - In special cases of highly qualified applicants, we will consider those who do not meet this minimum acceptable score but have other overriding strengths in the areas of specialization relevant to this program.
  - Applicants from India may also submit their Graduate Aptitude Test in Engineering (GATE) scores instead of GRE score.
  - For applicants who do not fall under any of the above categories, please contact the DigiPen (Singapore)'s Graduate Admissions Office.
- 7. Proof of English Proficiency. This is needed if English is not the applicant's first language. This requirement can be waived if the applicant has proof of completing at least four years of their most recent education at an institution in which English is the primary language of instruction. Please see the Proof of Proficiency in English Language section for ways to fulfill this requirement.
- 8. Other Documents. Any other certified true copy of scholarships, awards or achievements that support the student's application.

#### PERSONAL STATEMENT

Applicants should use the following outline to write their personal statements:

#### Introduction

Introduce yourself and give your general reasons for pursuing graduate study. Because our selection committee reads many applications, make your statement stand out by revealing your particular talents and individuality.

#### Qualifications

The aim of this section is to demonstrate that you have the necessary foundation and qualifications to be successful in this program. You should discuss:

- Why you chose this field and what motivated you to pursue computer vision.
- Your expertise and accomplishments in your major field and any research you have done. Mention projects and the names of professors who supervised your work.
- Your undergraduate studies in mathematics and how they relate to what you intend to do in this graduate program.
- Specific experiences that demonstrate your competence, motivation, and inspiration for continued study in computer vision.
- Other relevant experiences (e.g. jobs, community activities, leadership in school organizations, awards, or honors). Include names of people, organizations, and other important details.
- If necessary, briefly explain any discrepancies on your transcript, which might include a lower GPA in a particular trimester or year.

#### **Personal Background**

Tell us about yourself. Describe your family and your community (or a community in which you once lived). You could include whether your family, a family member in particular, or someone in your community influenced your field of interest. Also, give examples of personal attributes or qualities that you know will help you successfully complete graduate study. For example, describe projects or work that exemplify your determination to achieve your goals, your initiative and ability to develop ideas, and your capacity to work through problems independently.

#### Conclusion

Provide a brief summary of why you are qualified to enroll in and will be successful in this graduate program. Additional Requirements by Program.

# Admission/Denial to DigiPen (Singapore)'s Program

DigiPen (Singapore) considers every part of an applicant's materials and qualifications when evaluating the applicant for admission. Meeting the minimum standards is not a guarantee for admission. Applicants who exceed the minimum standards are more likely to be admitted.

Accepted graduate applicants will receive an enrollment packet via email. This packet includes an official letter of acceptance and, if applicable, a request to furnish proof of high school graduation, polytechnic diploma, or completion of a bachelor's degree before the start of classes in the fall. Students will receive their student enrollment agreement by email. By returning the signed enrollment agreement and proof of graduation, an applicant has confirmed enrollment. Applicants who are accepted and enroll are required to attend an official orientation session prior to the start of the program.

Applicants who are not accepted to the Institute will receive a letter of rejection via email. When possible, DigiPen (Singapore) will attempt to provide information about the specific areas in which an applicant needs improvement if the applicant wishes to reapply in subsequent years.

## Reapplication Information

Applicants who are denied admission are encouraged to reapply for a future year. By improving the areas suggested on the original decision letters (e.g. devoting more time and energy to a new art portfolio), many of those individuals reapplying for admission are accepted. To reapply, applicants should submit a new application through DigiPen (Singapore)'s SRS portal at <a href="https://management.digipen.edu/sg-srs-app/ApplicationMenu.aspx">https://management.digipen.edu/sg-srs-app/ApplicationMenu.aspx</a>.

#### Readmission Information

Any student who wishes to return to the Institute after an absence may apply to do so by contacting DigiPen (Singapore)'s Graduate Admissions Office *masters.sg@digipen.edu*. DigiPen (Singapore) may require certified-true copies of transcripts from all institutions attended since last attending the Institute and other official documentation for specific circumstances as requested below:

#### MEDICAL WITHDRAWALS

A physician's statement must be included, and it must indicate that the applicant is ready to resume studying. Additionally, it should describe any special needs the student may require upon returning to DigiPen (Singapore).

#### READMISSION AFTER ACADEMIC DISMISSAL

A statement explaining how time away from the Institute was spent, why the student wishes to return, and how the student plans to be successful by returning should be submitted as part of the application for readmission. Students dismissed for academic reasons must wait at least one year before they can matriculate. It is highly recommended that students take the time away to raise their GPA through college-level coursework in order to boost the likelihood of being readmitted.

#### READMISSION AFTER DISCIPLINARY ACTION

Students should include a formal appeal for the Appeals and Disciplinary Committee to review along with their application for readmission. Students previously withdrawn for disciplinary reasons must receive clearance from the Appeals and Disciplinary Committee to return.

#### READMISSION FOR PERSONAL REASONS

There are usually no impediments to returning to the Institute if there is space available; however, an academic plan may need to be developed with the student's advisor upon re-enrollment, and students requesting readmission after an extended period of time must meet with an academic advisor to determine the viability of completing their degree program.

# READMISSION AFTER NON-PAYMENT OF ACCOUNT

Outstanding accounts must first be settled before applying for readmission. Once settled, the policy for readmission follows the same guidelines listed under the *Readmission for Personal Reasons* section.

# SUBMISSION OF OFFICIAL TRANSCRIPTS OF COURSEWORK FROM OTHER UNIVERSITIES/COLLEGES

All readmission applicants to DigiPen Institute of Technology Singapore must request an official transcript from the Institute's Registrar's Office to be sent to the Admissions Office as part of their application. Additionally, if the applicant has taken courses from another college since leaving the Institute, any and ALL official transcripts must be forwarded to the Admissions Office from the Registrar of each institution attended. The transcripts should show all academic work until the last semester or quarter completed. If the applicant is approved for readmission with coursework in progress, the applicant's admission status will be provisional, pending receipt of the final transcript(s). Finally, readmission applicants who are applying for readmission more than one year after withdrawing and who are not native English speakers may have to submit additional Proof of English language proficiency. Please see the Proof of English Language Proficiency section.

#### Transfer Credit

Students who have documented college-level credit from another institution are automatically considered for transfer credit during the application process. It is the student's responsibility to send all official transcripts and test scores for consideration.

Transfer credit evaluations are completed on a course-by course basis. The Registrar's Office will evaluate college level credit earned at other accredited institutions with respect to a student's degree program at DigiPen. For transfer credit to be accepted, it must satisfy a course requirement for the student's degree program.

To be considered for transfer credit, courses must have been taken within the last 10 years and must appear on an official transcript from an accredited institution with a grade of B- or better. DigiPen reserves the right to accept or reject credits earned at other institutions. Transferred courses are entered on transcripts, but no grades or quality points are awarded. Transfer credit is not calculated into the student's grade point average at DigiPen.

Transfer credit may be accepted subject to the following conditions and restrictions:

 The course(s) offered for transfer must be taken at an accredited institution, approved by the regulatory authority which oversees the educational system in the country where the institution is located. These courses must appear on official transcripts from the institution. The final decision regarding the transferability of credits rests with DigiPen.

- The course(s) must be comparable in outcomes, competencies, and academic quality to DigiPen courses; transfer credit will be denied for courses not meeting this standard
- **3.** Transfer credit will be considered for courses in which the grade of "B-" or better is recorded.
- **4.** Courses will be considered only if taken and passed within the last 10 years.
- Courses considered for transfer to a student's major are subject to review by academic department offices and may require a validation examination, portfolio review, and/or additional documentation to be approved
- Developmental courses, orientation courses, or courses that receive a "pass" or "credit" grade are not eligible for transfer credit.
- 7. In general, designated project and performance courses may not be satisfied with transfer credit.
- 8. Graduate programs may accept up to 15 credits in transfer from other colleges and DigiPen programs.

Students transferring to DigiPen under an established articulation agreement may be subject to policies that vary from those stated here.

# Granting Credits for Work Experience

The Institute does not grant credit for work experience.

# Transferability of Credits to Other Institutions

A student wishing to transfer DigiPen (Singapore) credits to another institution may request the Institute to furnish transcripts and other documents necessary to a receiving institution. The Institute advises all prospective students that the courses and credits reflected on their transcript may or may not be accepted by a receiving institution. Students should inquire with the specific receiving institution about the transferability of DigiPen (Singapore) credits.

### **Tuition and Fees**

All tuition and fees are in SGD (exclusive of GST). GST will be calculated at the rate current to the date charges are assessed.

### Application Fee

A \$50.00 must accompany the application form. The application fee is refundable if the applicant requests a refund within three days after submitting the application fee and cancels the application.

## Tuition Fee Payment

Please see the payment schedule in the Student Enrollment Agreement for dates and amounts due. The payment of tuition and all associated fees is the sole responsibility and obligation of the registering student. Tuition increases will be announced six months before taking effect.

Payment of tuition and fees can be made by personal check, wire transfer or PayNow transfer (for Singapore Banks only).

All checks should be crossed and made payable to:

DigiPen Institute of Technology Singapore Pte Ltd.

Kindly indicate your name, billing reference and contact details on the back of the check for verification purposes.

You may drop off your check during office hours or mail to:

DigiPen Institute of Technology Singapore 510 Dover Road #03-01, SIT@SP Building Singapore 139660

An official receipt will be issued upon receipt of the payment.

#### INTERNET BANKING

Beneficiary: DigiPen Institute of Technology Singapore Pte Ltd

Bank Name: Citibank, N.A., Singapore Branch

Bank Address:

Transaction Exchange Centre 8 Marina View, #16-01 Asia Square Tower 1 Singapore 018960

Account Number:

0-850262-004 (For payment to Singapore Bank) 0-850262-012 (For payment to US Bank)

Swift Code: CITISGSG Bank Code: 7214

Branch Code: 001

Please indicate your name and/or billing references.

#### **PAYNOW TRANSFER**

Payment option for Singapore Banks only.

Unique Entity Number: 200711322H or QR Scan



Please indicate your name and/or billing references.

#### Tuition\*

The following tuition rates are for students enrolling for the 2022-23 academic year.

#### 2022-23 MASTER OF SCIENCE IN COMPUTER VISION GRADUATE TUITION

CREDITS IN TOTAL	TOTAL FEE PER CREDIT
31	S\$1,129* per credit

\*Tuition may be subject to change.

Students re-registering for a course that needs to be retaken must pay the regular tuition fees and are responsible for re-registering in the course.

Students auditing a course must pay the regular tuition fees.

## Administrative and Technology Fee

This fee of S\$200 covers a limited number of transcript requests, add/drop requests, and enrollment verification. In addition, it covers paper and toner for the student-use printers and maintenance costs associated with the upkeep of the equipment.

## Transcript Fee

This fee covers requests for official and unofficial copies of your transcripts. A fee of S\$10.00 will be charged per official transcript and S\$5.00 per unofficial transcript.

### Alumni Audit Fees

Tuition, application, and enrollment fees are waived, but alumni must pay any course, administrative, and technology fees. Fees are non-refundable for alumni audits.

An administrative and technology fee of \$200 is also payable per application to DigiPen (Singapore)

### **Books and Supplies**

Textbooks and supplies are estimated to be approximately S\$1,500 per year. This cost is not included as part of the tuition.

### Transfer and Waiver Fees

The fee for course transfers and waivers is S\$40.00 per credit of the course being transferred or waived.

## Replacement Diploma Fee

This fee of S\$200 covers the cost to replace a missing or lost diploma.

## Tuition Fees for Re-Registering

Students re-registering for a course must pay the regular tuition fees, if applicable. Any previously paid tuition fees will not count toward the current amount owed.

# Cancellation and Refund Policies

- If the Student has not visited the school prior to enrollment, they will have the opportunity to withdraw without penalty within three business days following either the regularly scheduled orientation procedures or following a tour of the school facilities and inspection of equipment where training and services are provided.
- All monies paid by Students who withdraw will be refunded if requested within three days after signing an enrollment agreement or making an initial payment.
- If the Student requests cancellation more than three days after signing an enrollment agreement and making initial payment, but prior to entering the school, they are entitled to a refund of all monies paid minus the application fee (\$50 + GST paid) and Administration and Technology fee (\$200 + GST paid).

### **Tuition Refund Schedule**

If the Student drops a course, submits an official withdrawal in writing, or is determined by the Administration to have withdrawn from the Institute, they shall be refunded as follows:

- Before the close of the fourteenth (14th) calendar day from the beginning of the trimester: The Student receives a 100% tuition refund.
- Before the close of the fifteenth (15th) calendar day through the thirtieth (30th) calendar day from the beginning of the trimester: The Student receives a 50% tuition refund.
- After the thirtieth (30th) calendar day from the beginning of the trimester: The Student is required to pay 100% of the tuition, and no refund is available.

Except for the application fee and Administration and Technology fee, all other assessed fees are refunded on the same schedule as tuition payments.

#### Termination Date

- For refund purposes, the termination date for institutional withdrawal is the last date of documented academic activity at the Institute by the Student or the date of determination in accordance with the Institute's withdrawal policy.
- The termination date for withdrawal from individual classes is the date of receipt of the appropriate withdrawal form.
- Notice of cancellation or withdrawal should be given by completing the appropriate withdrawal form, whether it is

withdrawal from the Institute or from specific classes for which the Student is registered.

 If the Student's account remains delinquent for over 30 days, the Institute reserves the right to cancel the Student's registration.

## Special Cases

In the documented event of prolonged illness or accident, death in the family, or other special circumstances that make it impractical to complete the program in which the Student is enrolled, the Institute shall make a settlement that is reasonable and fair to both Parties. These will be determined on a case-by-case basis.

## Application of Policy

Any monies due to the Student shall be refunded within 60 days from the Date of Determination when the Institute determines that a student is considered as withdrawn or within 60 days from the receipt of payment or credit memo, in the event that the date of such receipt occurs after the Date of Determination.

## **Student Life and Advising**

The Student Life and Advising Office provides services to all degree-seeking students in order to support their academic, professional, and personal development. The Student Life and Advising Office provides services that a student will need in their life at DigiPen (Singapore) and beyond, including:

- Academic Advising
- Academic Support Center (Undergraduate first year modules)
- · Campus Life
- · Counseling Helplines
- Disability Support Services

The sections below detail some aspects of a few of the services provided by Student Life and Advising Office.

## Student Advising

Every student at DigiPen Institute of Technology Singapore is assigned a Faculty Mentor. This mentor helps students create educational and professional goals and helps each student develop a deeper appreciation of their field of study. Your mentor is assigned upon matriculation. You may check who your Faculty Mentor is by accessing SRS (https://management.digipen.edu/sg-srs-app/students/SRSLogin.aspx?ReturnUrl=%2fsg-srs-app%2fstudents%2fdefault.aspx) during the week of orientation. Students should speak to their Faculty Mentors about:

- Developing skills to succeed in the profession of their choice
- · Setting and achieving career goals
- Learning more about specific degree programs and coursework

#### STUDENT LIFE AND ADVISING OFFICER

Students should meet with a Student Life and Advising Officer at least once a year or when they encounter any issues during their academic study at DigiPen (Singapore). Students who are unable to cope with their academic studies are strongly encouraged to seek help as soon as possible and not wait until the end of the trimester.

Students who are on Academic Warning and Academic Probation will be assigned to a Student Life and Advising Officer. They are mandated to meet with the officer during the trimester. The officer will work closely with the student to improve their overall CGPA and help them get out of the academic warning and probation status.

You are encouraged to speak to the Student Life and Advising Officer about:

- Academic progress
- · Setting academic goals
- Changing majors
- Preparation for graduation
- · Social and emotional issues

You may seek academic advice through the Student Life and Advising Office as long as you maintain an "enrolled" status at DigiPen Institute of Technology Singapore. To contact your Student Life and Advising Office, please email studentlife.sg@ digipen.edu.

## Disability Support Services

DigiPen (Singapore) is committed to providing equal access to all of its programs, courses, events, activities, and services. Wherever possible, reasonable accommodations will be offered provided they neither fundamentally alter the nature of the programs or the academic requirements that are considered essential to the program of study, nor create an undue hardship for DigiPen (Singapore).

DigiPen (Singapore) staff will engage in a collaborative effort with students to ensure equal access for students with disabilities.

# **Regulation of Conduct and Disciplinary Procedures**

The Institute has the right to take appropriate disciplinary action warranted by a student's misconduct. The specific provisions as to offenses, penalties, and disciplinary procedures set out below should not be construed as limiting the general authority of the Institute.

## Rules and Regulations

- 1. It is strictly forbidden to bring in or out of the premises any digital storage and any form of memory sticks or optical media, diskettes, video recorders, etc. other than for academic and approved usages which directly apply to courses being taken by the student during the term of this agreement, or for the required purpose of maintaining back-up copies of student-created projects and assignments. Students are responsible for guaranteeing that any files transferred to and from the Institute's equipment are free of malicious viruses or Trojan horses. In respect to the above, students are only allowed to carry in and out of the Institute's premises data files only and not executable files. This includes student-created executables. Following this policy will greatly reduce the risks of virus infections to the Institute's network. In order for the Institute's faculty to review and grade projects and assignments, source code must be stored and executables must be generated at the Institute from the corresponding source code.
- 2. Students are forbidden from downloading any files from the internet or installing any software, including but not limited to freeware and/or shareware, without the written approval from an Institute faculty member or from the Institute's IT staff. Furthermore, illegal use of the internet may be prosecuted to the fullest extent of the law.
- 3. In order to prevent damage to equipment and facilities, food and/or drink are not permitted anywhere within the training areas of the premises.
- 4. Smoking is not permitted anywhere within the premises, including, but not limited to, the washrooms, elevators, and stairwells.
- 5. Student ID tags must be worn visibly when on the premises. Lost or stolen ID tags must be reported to the Administration Office as soon as possible.
- 6. All student projects must receive approval from the Institute's instructors prior to commencement of any production. The Institute reserves the right to reject ideas or to stop production of any student game, animation, or project for reasons deemed appropriate to the Institute. The Institute will not allow the production of any student work that contains or makes a direct or indirect reference to any of the following material/subjects:
  - · Religious content

- · Religious symbols
- Pornographic material
- Excessive violence
- · Sexual and nude content
- Promotion of illegal substances
- · Promotion of racism or hate
- Content demeaning to any group of society
- 7. Plagiarism will not be tolerated. Any student who submits the work of another person as the student's own is considered to have committed plagiarism. Types of work that can be plagiarized include, but are not limited to, source code, artwork, concepts, designs, or other material. Anyone submitting someone else's work without the explicit written permission from the legal owner may have violated the owner's intellectual property rights or copyrights, in addition to committing plagiarism. If any student is unsure as to what constitutes a case of plagiarism, the student should consult an instructor for clarification.
- 8. Students shall not submit any work to the Institute that infringes upon the intellectual property rights of a third party. If, during the program, a student submits such work to the Institute, the student shall indemnify or hold harmless the Institute from and against all loss, damage, cost (including legal fees), and other liability, which the Institute may suffer as a result of the same.
- 9. Cheating on an examination will not be tolerated. Using any materials other than those authorized by the examiners during an exam is an example of cheating.
- **10.** Submitting false documents, transcripts, or any other academic credentials to gain admission to DigiPen or to obtain any academic benefit is grounds for expulsion without recourse.
- 11. Disrupting instructional activities, including making it difficult to proceed with scheduled lectures, seminars, examinations, tests, etc., shall be considered an offense.
- 12. In the interest of maintaining an environment that is safe and free of violence and/or threats of violence for its employees, students, and visitors, possession of a dangerous weapon is prohibited on property owned by or under the control of the Institute. Weapons and ammunition are potential safety hazards. Possession, use, or display of weapons or ammunition is inappropriate in an academic community for any reason, except by law enforcement officials. No weapons or ammunition shall be worn, displayed, used, or possessed on campus. Any member of the Institute community who violates this policy shall be subject to appropriate disciplinary action up to and including dismissal from the Institute and shall be subject to all appropriate procedures and penalties including, but not limited to, the application of the criminal trespass provisions of the law of the state of Washington. Any person who is not a member of the DigiPen community who violates this policy shall be subject to all appropriate procedures and penalties including, but not limited to, the application of

- the criminal trespass provisions of the law of the Republic of Singapore. Members of the Institute community who are aware of any violations of this policy or who have other concerns about safety or weapons should report them to the Provost, Managing Director, or the Chief Operating Officer – International.
- 13. Evidencing symptoms of alcohol or drug use while on Institute property, or the procurement or possession of alcohol or illegal substances on Institute property, is considered an offense.
- 14. It is forbidden to damage, remove, or make unauthorized use of the Institute's property or the personal property of faculty, staff, students, or others at the Institute. Without restricting the generality of "property," this includes information; however it may be recorded or stored.
- 15. It is strictly forbidden to use any equipment in the premises to produce any commercial work. The equipment is only to be used for homework and training purposes. Any attempt to produce commercial work will result in legal action against the offenders.
- 16. Public areas and equipment of the building must be kept clean. No tampering, moving, defacing, or otherwise altering the premises, equipment, or the building property is allowed.
- 17. Graffiti, other forms of mural art, or the posting of signs anywhere in the premises and the building without permission of the Administration is not permitted.
- 18. Office equipment (photocopier, fax, office phone, etc.) is not available for student use.
- 19. The assault of individuals, whether verbal, non-verbal, written, or physical, including conduct, or any other kind of assault which leads to the physical or emotional injury of faculty, staff, students, or others at the Institute, or which threatens the physical or emotional well-being of faculty, staff, students, or others at the Institute, is considered an offense.
- 20. In accordance with applicable law, DigiPen prohibits sexual harassment and harassment between employees, between students, and between employees and students. Harassment due to race, sex, color, national origin, ancestry, religion, physical or mental disability, veteran status, age, or any other basis protected by federal, state, or local law may violate the law and will not be tolerated. The Institute's policy prohibits inappropriate conduct even though it may not reach the legal standard for harassment.
- 21. It is forbidden to attempt to engage in, or aid and abet others to engage in, conduct which would be considered an offense.
- 22. Failing to comply with any penalty imposed for misconduct is considered an offense.

## **Disciplinary Process**

- Student Life and Advising Office will be notified of the alleged student misconduct.
- 2. Student Life and Advising Office will gather information to determine if the allegations are warranted, what, if any, policies were violated, and the extent of the violations.
- Student Life and Advising Office will assess the need for a disciplinary hearing.
  - a. One offense of academic dishonesty may or may not result in a disciplinary hearing, however two notifications of academic dishonesty will automatically result in a hearing with the Appeals and Disciplinary Committee
- 4. The student(s) involved will be contacted through email, phone, or letter indicating the alleged violation and a meeting time with Student Life and Advising Office.
- 5. Based on the severity of the alleged violation, a Student Life and Advising Officer will determine during the meeting if the student will have the disciplinary meeting with:
  - a. Student Life and Advising Officer(s) (if the alleged violation does not have the possibility of resulting in suspension or expulsion), or
  - Appeals and Disciplinary Committee (if the alleged violation does have the possibility of resulting in suspension or expulsion).
    - The Appeals and Disciplinary Committee consists of faculty, and staff who are briefed on the alleged violation and review relevant information to the alleged misconduct.
- If the student is not found to be in violation of any academic or campus policy, there will be no further action.
- 7. If the student is found to be in violation of any academic or campus policy, the Student Life and Advising Office or the Appeals and Disciplinary Committee will determine the appropriate sanction, which can include, but is not limited to, a failing grade, suspension, or expulsion from the Institute.
- **8.** The student will be notified in writing of the decision and of any possible sanctions.
- **9.** Student Life and Advising Office will monitor any sanction imposed on the student.
- **10**. Students who fail to comply with the terms of their sanction will be committing an additional policy violation and could be subject to more disciplinary action.

**11.** All documentation of the violation will be kept on file with the Student Life and Advising Office.

## Warnings

- 1. The penalty for plagiarism or for cheating is normally suspension from the Institute.
- Charges filed under the law of the Republic of Singapore and/or the commencement of legal proceedings do not preclude disciplinary measures taken by the Institute.

#### **Penalties**

The penalties that may be imposed, singly or in combination, for any of the above offenses may include, but are not limited to, the following:

- A failing grade or mark of zero for any course, examination, or assignment in which the academic misconduct occurred.
- Suspension from the Institute for a specified period of time or indefinitely. Students will not receive credit for courses taken at another institution during a suspension.
- 3. Reprimand, with the letter placed in the student's file.
- Restitution, in the case of damage to property or unauthorized removal of property.
- **5.** A notation on the student's permanent record of the penalty imposed.
- 6. Expulsion from the Institute.
- **7.** Legal action against the student committing the offense.

## Appealing a Charge of Academic Dishonesty or Policy Violation

A student has the right to appeal a charge of academic dishonesty or policy violation, or the penalties assigned for academic dishonesty or policy violation, with the Appeals and Disciplinary Committee. The student has two weeks from the official written charge to appeal the alleged violation.

## Appealing a Decision Made by the Appeals and Disciplinary Committee

The student has the right to dispute the decision of the Appeals and Disciplinary Committee. If the student wishes to make an appeal, the student must notify the Provost (or designee) and must provide a full explanation of the reasons for appealing in writing within one week of being notified of

the decision. Appeal hearings take place before the Provost (or designee). A member of the Appeals and Disciplinary Committee puts forth the reason for the original decision. As soon as possible after the hearing is completed, the Provost (or designee) will notify the student of the final decision in writing.

The student has the right to dispute the disciplinary decision of the Provost (or designee) for all decisions resulting in suspension or expulsion. If the student wishes to make an appeal, the student must notify the Chief Operating Officer -International in writing within one week of being notified of the decision, and must provide a full explanation of the reasons for appealing. The Provost (or designee) puts forth the reasons for the original decision. As soon as possible after the hearing is completed, the Chief Operating Officer - International will notify the student of the final decision in writing.

## Dismissal by the Institute

By written notice to a student, the Institute may, at its sole discretion, dismiss a student at any time if the student is in default of any of the terms, covenants, or conditions of the Institute. Furthermore, the Institute reserves the right to withdraw a student if the student is unable to maintain the minimum required GPA in the student's courses at the end of each trimester. Upon dismissal, the student shall immediately return to the Institute all materials in the student's possession relating to the program, whether created by the student or other students, or provided by the Institute.

#### Career and Alumni Services

## Career Services

DigiPen (Singapore)'s Career Services staff provides a variety of resources for enrolled students to jumpstart their professional development before they graduate and transition into the industry. These resources include on-campus events for students to meet and interact with industry professionals, and on-campus facilities to connect students with prospective employers, communication workshops, and both group and one-on-one appointments to review application materials (e.g., resumes, cover letters, websites) and discuss interviewing and other job search skills.

The Career Services staff coordinates a variety of on-campus events or students. Recruiters meet with students to offer insight into their companies, review resumes and student work, and interview potential hires. DigiPen (Singapore)'s Career Services staff also works closely with faculty to invite industries to give Company Talks to students.

DigiPen (Singapore)'s Career Services staff establishes relationships with potential employers and maintains an online professional/social networking groups for alumni. The Career Services staff also posts job and internship opportunities for students through internal channels.

For further information, please email the Career Services staff at careerservices.sg@digipen.edu. Please note that employment upon graduation is not guaranteed, nor is the Institute obligated to secure employment on behalf of students.

### Alumni Relations

DigiPen (Singapore) maintains a database of all graduates and DigiPen (Singapore) alumni are encouraged to report back regarding changes to their professional status. DigiPen (Singapore) hosts alumni gathering events for alumni to connect with one another. The Institute also provides career resources post-graduation and encourages alumni to remain connected with the DigiPen community.

The Alumni Audit allows graduates of DigiPen Institute of Technology to take courses tuition-free within two calendar years of graduation. Participating alumni must review and sign an Alumni Audit Enrollment Agreement prior to attending courses.

# **Educational Rights and Privacy of Student Records**

DigiPen Institute of Technology Singapore reserves for students certain rights with respect to their education records. These rights are:

- 1. The right to inspect and review their education records within 45 days of the day the Institute receives a request for access. Students should submit to the Registrar's Office, Provost, or head of the academic department (or appropriate official) written requests that identify the record(s) they wish to inspect. The Institute official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the Institute official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
- 2. The right to request the amendment of the student's education records that the student believes is inaccurate or misleading. Students may ask the Institute to amend a record that they believe is inaccurate. They should write to the Institute official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate. If the Institute decides not to amend the record as requested by the student, the Institute will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
- 3. The right to consent to disclosures of personally identifiable information contained in the student's education records. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interests. A school official is defined as a person employed by the Institute in an administrative supervisory, academic, or support staff position; law enforcement officials and health staff; a person or company with whom the Institute has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the Institute discloses education records without consent to officials of another school to which a student seeks or intends to enroll.

## Release of Student Directory, Academic, and Financial Records

If a student's parent, guardian, family member, or other individual wishes to obtain any of the student's information (including, but not limited to, account balance, tuition payments due, class registration, etc.), the student must fill out and submit the Student Consent for Release of Records Form listing the names of the individuals to whom the student's information may be released. This form will be distributed to all new students prior to matriculation. It can also be obtained online through the Student Records System (SRS).

#### Personal Data Protection Act

The Personal Data Protection Act (PDPA) of 2012 established regulations on collection, use and disclosure of personal data. It primarily aims to recognize the rights of individuals to protect, access, and correct their personal data (including directory information such as contact number, postal address) and the needs of organizations to collect, use, or disclose personal data for reasonable and valid purposes. PDPA also includes the DO NOT CALL provision (DNC) which restricts organizations from sending marketing and promotional information to individuals without their consent.

In compliance to PDPA, DigiPen Institute of Technology Singapore has outlined the following general guidelines in handling matriculated student data:

- Accumulated student data (personal and educational records) will be used for the purpose of delivering academic and administrative services, conducting internal analysis/research, report generation for authorized internal or external (i.e. auditors, government agencies) parties as well as in promoting educational activities organized by the Institute.
- · Access to student data is limited to authorized staff or faculty members of the Institute who require such information to perform their educational duties. Personal data, including educational records, of any student will not be disclosed by the Institute to any external party without the student's written consent.
- The Institute will correct any error or missing information on the student record upon written request.

For full Data Protection Policy, please refer to our website, digipen.edu.sg/privacy-and-cookie-policies.

Write in to dpo.sg@digipen.edu for data protection related matters.