



# Image Certified Professional Diploma

With Specialization in

**.Net Technology**  
**Java Technology**

**Image School of Technology Pte Ltd**

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### ***The Institute***

**Image** is established to equip the students and working professionals with managerial skills and latest Technology. Started its journey in 2004, the Institute already runs MBA and other internationally accredited courses.

**Image School of Technology, "Registered with MOE"**, provides Information Technology courses for students and working professionals. The Institute Imparts knowledge, provides Infrastructure and support to students to enable them to step into the InfoComm Sector as competent candidates.

### ***Mission***

To provide quality education that will stretch and train minds to adapt easily and succeed in a fast changing entrepreneurial and technological world.

### ***Vision***

Create a model for delivering quality education in a global environment by focusing on building a knowledge-based society with deep understanding of business and technology. We are committed to teaching with skill and passion by providing a technology enabled collaborative learning platform, which is a critical component to build this model.

### ***Uniqueness***

- Made in Singapore to Groom Local IT Talent.
- Commitment to quality in terms of course structure, materials & lab.
- Professionally qualified & committed Lecturers.
- Labs & class rooms equipped with state of the art technology.

### ***Image Certified Professional Diploma***

**Image Certified Professional Diploma** aims to provide 'O' level graduates or equivalent the enhanced knowledge and skills in Information Technology. This diploma program provides students with a firm theoretical and practical background in computers for optimum proficiency in Information Technology.

## ***Course Synopsis***

The course **Image Certified Professional Diploma**, gives students a chance to build their passion for computer studies from the vary basic to an advanced level. The course starts with the basic subjects like Computer Fundamentals, Programming and Operating Systems and advances through subjects like Database Design and E commerce. The course emphasizes on the **Total Development** of a student. So the course is a proper balance of theory and practical classes with ample chance of working on projects in each trimester. **Image Certified Professional Diploma** comes with specializations on two different and extremely powerful subjects to get into the job market. Those who want to work as an application developer or similar field may choose to specialize in **.Net Technology**. Those who develop a strong analytical and problem solving skill may choose to be a programmer with specialization in **Java technology**. Subjects like communication skills, management skills and domain knowledge equip students with extra skills they require to become a professional. Industry Internship at the end of the course enables students to match their acquired knowledge to the industry requirements.

**Image Certified Professional Diploma**, a course with syllabus approved by MOE, designed to nurture local students and groom them to meet the requirements to fast changing IT world.

## ***Added Features***

- Improved Communication Skill
- Exposure to Domain Knowledge Areas
- Knowledge of Management Skills

## ***Industry Internship***

Any computer or IT related course is not complete without projects. One of the best methods of getting involved in a real life project is Industry Internship. Students of **Image Certified Professional Diploma** would go through Industry Internship in software companies or related fields and gain experience before they actually start working. This internship would allow them to cope up with industry atmosphere and professionalism they need in their career. This would also enhance their chance of getting recruited by the company itself.



### ***Career Ahead***

With Image Certified Professional Diploma, students would be regarded highly by the industry. With hands-on approach and contemporary modules in the course structure, students would be the preferred candidate for positions like Program Analyst, Software Specialist, Web Designer or Web Programmer in the info Comm industry or other related fields.

### ***Assessment methods***

- Attendance
- Quizzes and MCQs
- Assignments
- Projects & Presentations
- End Term Exams
- Industry internship

### ***Duration:***

The course is full time with 20 hrs per week. The total courseware will be covered in 2 years or 6 Trimester. First 5 trimesters are typically of 4 month duration covering 4-5 study modules and a project.

### ***Administrative Matters***

***Fees*** Course Fees S\$12000, payable at 2 installments(S\$7000 + S\$5000).  
Registration Fees S\$100

### ***Application Form***

Download the Application Form from our website [www.image.edu.sg](http://www.image.edu.sg) , fill up and send it to us.

### ***Eligibility Criteria***

1. O level
2. N level with work experience.

### ***Medium of Instruction***

English

## **Course Outline :**

### **First Year**

#### **Trimester1 – Programming Concepts (260 hrs)**

- T1M1. Computer Fundamentals and Architecture
- T1M2. Introduction to Operating Systems
- T1M3. Office Automation tools
- T1M4. Introduction to Programming
- T1M5. Project

#### **Trimester2 – Software Application Development (260 hrs)**

- T2M1. Software Development Methodology
- T2M2. Object Oriented Programming
- T2M3. Foundation of Web Design
- T2M4. Effective and confident communications
- T2M5. Project

#### **Trimester 3 – Database Management (260 hrs)**

- T3M1. Concepts of Database, RDBMS and SQL
- T3M2. Database Design
- T3M3. Principles and Practices of Management
- T3M4. Domain knowledge
- T3M5. Project

#### **Electives for Year 1 (Self-learning Modules – Any ONE) (120 hrs)**

- IT in Retail/Logistics
- IT in Banking & Finance
- IT in Life Sciences

### **Second Year**

#### **Trimester 4 - E-commerce (280 hrs)**

- T4M1. Internet Architecture, Fundamentals and Principles of web designing and E-commerce
- T4M2. User Interface design, HTML, DHTML, Javascript, CSS
- T4M3. Internet systems trend, security, crime and ethics
- T4M4. Microsoft SQL Server, PHP, MySQL
- T4M5. Customer Service - Policies, Procedures and Order fulfillment

#### **Trimester 5 (Option 1) – .Net Technology (320 hrs)**

- T5M11. Enterprise Application Development
- T5M12. Programming in VB.Net
- T5M13. Programming in ASP.Net
- T5M14. Programming in C#
- T5M15. Designing & Developing .Net Web Services
- T5M16. .Net Application Development Project

#### **Trimester 5 (Option 2) - Java Technology (320 hrs)**

- T5M21. Fundamentals of Java Programming Language
- T5M22. Developing Applications for the Java EE & J2EE Platform
- T5M23. Developing Real-time application for Java Platform
- T5M24. Designing & Developing Java Web Services
- T5M25. Web Component Development with Servlet and JSP Technologies
- T5M26. Java Application Development Project

#### **Trimester 6 - Independent study/Industry Internship (300 hrs)**

## **Image Certified Professional Diploma**

### ***Course Outline***

#### **First Year**

#### **Trimester1 – Programming Concepts (260 hrs)**

##### **T1M1. Computer Fundamentals and Architecture**

The module deals with the fundamentals of computer and its Architecture. It is designed to provide the knowledge of the fundamentals like Boolean Algebra, digital electronics. It also provides students with the broad understanding of operational structure of a computer system. It deals with topics on instruction set architecture and system designs. It also introduces current trends such as pipeline structures, memory systems and design principles of microprocessors.

##### **T1M2. Introduction to Operating Systems**

This module discusses the fundamental and essential concepts of operating systems such as process management, memory management, Disk and File systems, Operating Systems security and GUI in detail. It provides an overview of Microsoft Windows, Linux and Unix, as well as their general functions. The module introduces system commands and shell scripting, differentiates system commands from programming languages, and details the use of system commands and shell scripting to tailor the system environment to the needs of software application development.

##### **T1M3. Office Automation tools**

The module provides with a structured approach to the office automation tools, their importance and delves in-depth into the features and uses of these tools. It introduces the candidates to all the functionalities of word processor, spreadsheet and presentation program software tools.

##### **T1M4. Introduction to Programming**

The module emphasizes on algorithmic problem solving at the beginner level and representing logic using flowcharts and simple pseudo-code. Later it deals with C programming language. Structure of a C program, the variables, data types, constants and keywords, the arithmetic, relational, logical and unary operators. It discusses decision-making statements and the different loop constructs. Briefly introduces single and two-dimensional arrays, pointers and writing user-defined functions and Input/Output operations on a file.

##### **T1M5. Project**

In this module students will carry out a project using either Office Automation Tool or C programming language. A specific project topic will be given and report has to be submitted for evaluation.



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## **Trimester2 – Software Application Development (260 hrs)**

### **T2M1. Software Development Methodology**

The module discusses the tools and methods for defining software requirements, performing software design, construction, testing, and maintenance tasks. It discusses the challenges in software development, the fundamentals of software engineering, the various phases in the life cycle of software development, alternative software development models and the quality and process standards and guidelines in Software development.

### **T2M2. Object Oriented Programming**

This module addresses the concepts of object-oriented programming, elaborating on the concepts of class, object and methods and on techniques like inheritance, modularity, abstraction, encapsulation, and polymorphism. The techniques will be demonstrated using VB/C++ as a programming language.

### **T2M3. Foundation of Web Design**

The module provides with a structured approach to the Website development tools, their importance and delves in-depth into the features and uses of these tools. It introduces the candidates to Image processing/ photo editing tools, simple animation and web authoring tools. At the end of the module, the students will be able to build their own websites.

### **T2M4. Effective and confident communications**

The module shall impart soft skills that enable the candidates to make effective communications. It emphasizes on the listening, acknowledging, making positive conversation and also introduces the different approaches to conflict negotiation.

### **T2M5. Project**

In this module students will carry out a project either on website design or on OOP. A specific project topic will be given and report has to be submitted for evaluation.



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### **Trimester 3 – Database Management (260 hrs)**

#### **T3M1. Concepts of Database, RDBMS and SQL**

This module examines the fundamental principles and concepts of database systems to store and structure an organization's information to drive its business functions. It briefly introduces the different models of database systems such as hierarchical and network models and elaborates the relational model. It also describes the conceptual, logical and physical design of a relational database. It also introduces theory and practice of database design and implementation and provides you with a good understanding of modern database systems and multi-user database application development.

#### **T3M2. Database Design**

Database design process and database analysis and design techniques used in the process, such as data requirement fact-finding, E/R modeling and normalization are taught. In this module students learn how to design a database using different software tools.

#### **T3M3. Principles and Practices of Management**

This module deals with Development, functions & structure of Management, the aspects relating to people management, Performance Management, Communication Management and Change Management.

#### **T3M4. Domain knowledge**

In this module a broad idea on different domains like Retail, Banking, HR, Logistics are imparted. Students also learn how IT is used in different sectors of the industry and equip themselves with recent industry trends.

#### **T3M5. Project**

In this module students will carry out an independent project on database design. Project topic will be given and report has to be submitted for evaluation.

### **Electives for Year 1 (Self-learning Modules – Any ONE) (120 hrs)**

- **IT in Retail/Logistics**

This module will deal with a general understanding on the application of IT in the field of Retail/Logistics covering the in-depth concepts. The module will give the students the necessary domain knowledge with respect to the IT concepts.

- **IT in Banking & Finance**

This module will deal with a general understanding on the application of IT in the field of Banking & Finance covering the basic financial concepts. The module will give the students the necessary domain knowledge with respect to the financial concepts.

- **IT in Life Sciences**

This module will deal with the basics of Biological Sciences, the terminologies used in this domain and the use of IT in the field of life sciences. The module gives the students an insight into the contribution of IT to the field of life science.

## **Second Year**

### **Trimester 4 - E-commerce (280 hrs)**

#### **T4M1. Internet Architecture, Fundamentals and Principles of web designing and E-commerce**

This module introduces the basic concepts of internet and the components of a web site. It elaborates the role of information systems in businesses and the organizational context in which they are used. It discusses the Dot com debacle, B-2-B, B-2-C and collaborative commerce in detail.

#### **T4M2. User Interface design, HTML, DHTML, Javascript, CSS**

This module will address the importance of user interface design. It also talks of the importance of blocks and paragraphs, consistency across the pages, the language used, and the visual balance and appeal of the websites. This module introduces the basic concepts of the Hosting a Web site, the concepts of hypertext and how it integrates with the internet to provide powerful world-wide-web application over the internet, the origin and background of HTML, enhancing an HTML Page using images, color and background, creating Tables and Frames in a Web Page.

#### **T4M3. Internet systems trend, security, crime and ethics**

This module discusses the vulnerability of the internet systems, importance in data security, possibilities of security breaches, internet code of ethics such as internet not a value-free zone, off-line laws for on-line world and responsiveness to customer and user opinion. It also covers strategies such as ethical hacking to mitigate security risks.

#### **T4M4. Microsoft SQL Server, PHP, MySQL**

This module describes the key features of Microsoft SQL Server. It deals with creating database devices, databases, and tables, writing transact-SQL statements to query and manipulate data, programming views, triggers, and stored procedures for the server, managing user accounts, login security, and database permissions, using SQL Server to create and update Web pages, administering SQL Server using SQL OLE objects.

#### **T4M6. Customer Service - Policies, Procedures and Order fulfillment**

This module deals with the soft skills essential to the candidates as they get ready to enter the IT industry. It deals with topics like customer relationship management, customer care, professionalism, telephone etiquette, attitude and behavior and so forth.

## **Trimester 5 (Option 1)– .Net Technology (320 hrs)**

### **T5M1. Enterprise Application Development**

This module discusses concepts and issues relating to large-scale software development for enterprises. The topics will include team collaboration, component development, integration, testing and implementation and post-implementation operations. It deals with development of multi-tier applications and application deployment to multiple platforms.

### **T5M2 . Programming in VB.Net**

This module introduces the important features and concepts of Visual Basic .Net programming. Students will learn how to create attractive, useful applications that take advantage of the rich software libraries that are readily available. The OOP concepts and programming skills are further harnessed in this module.

### **T5M3. Programming in ASP.Net**

This module deals with building dynamic Web solutions that can run on any browser or mobile device. It involves practical, hands-on examples which can be modified for various Web applications and services. The candidates will learn techniques and best practices for building high-performance, effective, and functional solutions. The course shall demonstrate the use of ASP.NET in accelerating the productivity for corporate intranet and dynamic portal applications.

### **T5M4. Programming in C#**

This module provides students training in the fundamentals of developing software applications using the C# programming language, with an emphasis on object oriented programming techniques and the Microsoft environment.

### **T5M5. Designing & Developing .Net Web Services**

This module introduces the skills needed to develop XML web services hosted on the Microsoft .NET platform. *It* discusses how to consume these services on both Microsoft and non-Windows clients, and how to weave them into well-designed and scalable applications.

### **T5M6. .Net Application Development Project**

In this module students carry out projects on .Net Application Development. They have to submit a report and present a seminar on the topic chosen.

### **Trimester 5 (Option 2) - Java Technology (320 hrs)**

#### **T5M1. Fundamentals of Java Programming Language**

This module provides a solid introduction to OO Concepts, the Java programming language and development environment. This module provides hands-on exposure by which the students will acquire the skills they need to write standalone, client/server, and intranet applications in Java.

#### **T5M2. Developing Applications for the Java EE & J2EE Platform**

This deals with Java Servlet Technologies, JSP Pages, Web Services, enterprise beans, persistence in Web Tier, EJB Tier, Securing JEE Applications. The students will learn what J2EE is, its benefits, its main components, Evolution of Enterprise Application Frameworks, Why use J2EE, J2EE Platform Architecture, J2EE APIs and Technologies and J2EE Reference Implementation.

#### **T5M3. Developing Real-time application for Java Platform**

Control garbage collection induced jitter in thread release, Create Real-time Thread objects, and use Scheduling Parameters and Periodic Parameters to control thread behavior, Understand the constraints that apply when using objects in non-heap memory, and issues that might arise when using library APIs in non-heap memory, Control the queue-ing of asynchronous events to limit the impact of out-of-spec events or handlers on other parts of a system, Interrupt threads asynchronously and control their behavior under such conditions and so forth.

#### **T5M4. Designing & Developing Java Web Services**

This module imparts the knowledge necessary to implement a web service using Java technology components, implement a J2EE platform web service, implement a web service client that accesses the functionality provided by a J2EE platform web service.

#### **T5M5. Web Component Development with Servlet and JSP Technologies**

Students are exposed to the current methods for analyzing, designing, developing, and deploying web applications with Java technologies. Lab exercises provide students with experience in constructing and deploying the small-to-medium scale web applications found in intranet and low-volume commercial sites. The course features the Java EE 5 technology, and uses the Java EE 5 SDK. The students perform the lab exercises using the Net Beans Integrated Development Environment (IDE) 5.5.

#### **T5M6. Java Application Development Project**

In this module students carry out projects on Java Application Development. They have to submit a report and present a seminar on the topic chosen.

### **Trimester 6 - Industry Internship (300 hrs)**

Students have to do their compulsory Industry Internship and submit a project report.