

Diploma of Information Technology (Software Development)



Course Description

The Diploma of Information Technology (Software Development) is approximately 10 months full-time* or 33 months part-time*. The course provides training in the expertise necessary to enable you to work within the IT industry in the area of database development, programming and software development.

This course offers training towards up to two vendor certifications depending on which elective stream you undertake: SCJP, SCJD, MCITP Database Developer, MCTS: Windows Applications and MCTS: Web Applications.

What will I learn?

The Diploma of Information Technology (Software Development) will provide a thorough practical foundation on which to build a successful career in the area of database development and programming. This course will enable the graduate to work in areas such as database development, software development, programming analysis and design through its concentration in a wide range of programming languages.

Programming

The Diploma of Information Technology (Software Development) course incorporates the comprehensive study and hands-on experience with a range of different programming languages to aid in the development of software solutions. Such skills will be held in high regard with the paramount importance that programming plays in developing integrated business solutions for organisations.

Should I consider this course?

The Diploma of Information Technology (Software Development) is most suitable for those wanting to enter the IT industry with the intention of establishing a career in a programming or database development capacity. Aided by strong learning in a number of applications as well as practical simulations in typical work force project teams, this course is the perfect spearhead into a fully fledged career in programming.

What do I need to start?

To ascertain whether you qualify for a course at Computer Power Institute, you must obtain a satisfactory result on our entrance assessment. Ideally, you will have successfully completed Year 12/UE or Bursary or have work experience behind you. Of course, you also need enthusiasm and a willingness to learn. No previous knowledge of IT is required to undertake this course.

Major Course Goals

Upon completion of this course, students will be able to:

- Use common word processing, spreadsheets, presentation and database
- Code a well structured solution to a problem in a variety of programming languages
- Document, code and debug computer programs using various programming languages
- Analyse client requirements and design, develop, code and evaluate the appropriate business solution
- Demonstrate communication, problem solving, time management, goal setting, planning and customer relation skills

Career Paths

This course can complement your existing skills and qualifications or provide further opportunities in your current role. It can also prepare you for a number of career opportunities including:

CAREER ENTRY

e-Commerce Programmer
 Programmer
 Software Developer
 Database Developer

FUTURE OPPORTUNITIES

Programming Specialist
 e-Commerce Specialist
 Analyst Programmer
 Database Administrator
 Contract Manager
 IT Manager

**Based on: Full-time study load of 5 shifts per week of approximately 5 hours per shift. Part-time study load of 2 shifts per week of approximately 4 hours per shift. Study schedules can also be tailored to meet your needs.*

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INTRODUCTION

- Orientation
- Introduction to Computer Power
- Introduction to Keyboarding
- Introduction to Computers

OPERATE A COMPUTER

- Working with Windows
- Customising Windows
- Working with files
- Running applications

THE INTERNET AND e-COMMERCE

- Connecting to the Internet
- Obtain useful information from the Internet
- Using Internet programs

MICROSOFT SOFTWARE APPLICATIONS

- Operate a Word Processing Application
- Operate a Spreadsheet Application
- Operate a Database Application

DESIGN AND BUILD A DATABASE

- Database management
- Elements of a database management system
- Database administration
- Data warehousing

DESIGNING WEBSITES

- Design, link and build Web pages
- Move HTML documents to a Web server
- HTML and Cascading Style Sheets

PROGRAM DESIGN CONCEPTS

- Principles of programming techniques
- Apply three basic control structures of sequence, selection and repetition in writing an algorithm
- Check algorithms using test data

PROGRAMMING CONCEPTS 1

- Create simple Java programs
- Understand the principles of Object-Oriented programming

PROGRAMMING CONCEPTS 2

- Create Java GUI frames
- Write code to react to events and exceptions
- Understand the MVC pattern

UNIFIED MODELING LANGUAGE

- Understand UML fundamentals
- Create Use Case, Class, Activity and State Machine diagrams

INTRODUCTION TO VISUAL STUDIO

- Create window forms
- Source control
- Object-Oriented programming in VB.NET/C#

STRUCTURED QUERY LANGUAGE

- Understand the fundamentals of the SQL Language
- Construct simple SQL statements

PROGRAMMING CONCEPTS 3

- Create programs that use threads
- Create applets
- Java streams
- JDBC

PROGRAM DESIGN AND MAINTENANCE METHODS

- Analyse impact of integration factors on systems design
- Design client interface
- Test, debug and document programming code

EXTENDED CUSTOMER SERVICE

- The customer/business relationship
- Dealing with difficult customers
- Customer feedback

SYSTEMS DEVELOPMENT PRACTICES

- Determine client business expectations and manage the scope, cost and quality control
- Develop the detailed technical design blueprint
- Design and manage project life cycle

INFORMATION SYSTEMS ANALYSIS

- Detailed investigation and project analysis
- System design and development
- System life cycle methodologies
- System development tools

GROUP DEVELOPMENT PROJECT

- IT business strategy development
- Manage, guide and apply project integration and quality management techniques
- Project life cycle design

PROFESSIONAL DEVELOPMENT PROGRAM

- Goal setting and planning
- Time and personal resource management
- Communication skills, decision making
- Telephone and written communication skills

EMPLOYMENT PREPARATION AND PLANNING

- Surveying the job market
- Matching skills with employer needs
- Interview techniques

ELECTIVES

Students will choose to major in one of the following electives:

JAVA PROGRAMMING (SCJP & SCJD)

- Advanced GUI's
- Networking
- Project analysis, design and implementation

C#/VB.NET PROGRAMMING (MCTS: WEB APPLICATION & MCTS: WINDOWS APPLICATION)

- Application development foundation
- Windows based client development
- Web based client development

DATABASE DEVELOPER (MCITP: DATABASE DEVELOPER)

- Implementation and maintenance
- Designing database solutions
- Design and optimising data access