



THE
**Northern
Sydney
Institute**
Part of **TAFE**^{NSW}

Certificate IV in Programming (National Code: ICT40515)

Hornsby Campus Information Technology

Is this course for me?

This course will provide you with the foundation level skills and knowledge required to programme software applications using industry standard programming languages, database environments, integrated development environments and computer aided software engineering tools.

After successfully graduating from this course you will be able to design software solutions using current design methodologies, build user interfaces to support software applications, write code to access and manipulate data, design and build databases to meet specific business requirements and test code. You will also be able to help project manage the development of software projects.

What skills are required before I enrol?

There are no entry requirements for this qualification, however preferred pathways for applicants into this qualification include:

- Successful completion of ICT30115 Certificate III in Information, Digital Media and Technology or other relevant qualifications or units equivalent to the core of ICT30115. Or
- Demonstrated vocational experience in a range of programming-related work environments in Software Programming, Application Programming, Web Development or similar.

How long does this course take?

...and how much time do I need to put into it?

18 weeks or one semester (6 months) Full Time or 36 weeks or two semesters (1 year) Part Time. This time may vary from week to week. Full-time study attendance is 18-20 hours/week with up to 20 hours of work outside of class. Flexible delivery is also available for students who need to complete the course in a combination of online and class attendance. Students enrolled in flexible delivery will be provided with all the course materials online as well as access to teachers to assist with the course work.

What will I be able to do after the course?

Graduates of this course can apply for a career in many Information and Communications Technology Industry roles with a focus on designing, developing and implementing dynamic, data driven software applications.

Relevant job roles for graduates of this course include:

- Support programmer
- Support Analyst Programmer
- Application Support Analyst Programmer
- Graduate/Junior Applications Programmer
- Associate Programmer

What costs are involved?

Fees are set by TAFE NSW and change each year. The fees can be viewed at-

<http://www.nsi.tafensw.edu.au/Courses/EnrollingAndRegistering/FeesAndFinancialAssistance/Default.aspx>

What will I learn?

There are four main “focus areas”

C#.NET Programming	Skills	Course Units
<ul style="list-style-type: none"> ✓ You will learn intermediate level programming skills in C#.Net, how to build user interfaces for software applications. ✓ You will use .Net class libraries to automate business processes. ✓ Develop software applications that are integrated with a database such as SQL Server. ✓ You will also learn how to test software applications. 	<ul style="list-style-type: none"> • Understanding IDE in MS Visual Studio • Language syntax of C#.NET programming • Write simple programs in C#.NET language • Link application with Database using ADO.NET • Developing GUI based application in C#.NET 	<p>ICTPRG414 Apply introductory programming skills in another language</p> <p>ICTPRG410 Build a user interface</p> <p>ICTPRG405 Automate processes</p> <p>ICTPRG407 Write script for software applications</p> <p>ICTPRG427 Use XML effectively</p> <p>ICTPRG404 Test applications</p> <p>ICTPRG403 Develop data-driven applications</p>
Java & Android Mobile Programming	Skills	Course Units
<ul style="list-style-type: none"> ✓ You will learn introductory through to intermediate level programming skills in the Java language ✓ How to utilise the Java class libraries to develop software apps. ✓ Introductory Mobile Device Programming using Android OS. 	<ul style="list-style-type: none"> • Programming syntax and variables of Java language. • Write and compile Java programs • Use Java & other built-in libraries in Java application • Introductory Mobile application in Android OS. 	<p>ICTPRG406 Apply introductory object-oriented language skills</p> <p>ICTPRG413 Use a library or pre-existing components</p> <p>ICTPRG409 Develop mobile applications</p>
Database	Skills	Course Units
<ul style="list-style-type: none"> ✓ You will learn how to define and manipulate data and data structures using SQL. ✓ Design, build and configure databases and model data objects for specific business requirements. 	<ul style="list-style-type: none"> • Database concepts • Designing Databases • Applying SQL to create and extract data from database • Configure databases 	<p>ICTDBS502 Design a database</p> <p>ICTDBS403 Create basic databases</p> <p>ICTPRG402 Apply query language</p> <p>ICTPRG412 Configure and maintain databases</p>
UML Modelling & Project Management	Skills	Course Units
<ul style="list-style-type: none"> ✓ You will learn how to analyse software requirements, design Object Oriented solutions using the Unified Modelling Language (UML) and project manage small scale IT projects 	<ul style="list-style-type: none"> • Understanding of Business and its functions • Identifying user requirements and documenting it • Feasibility Study & reporting • Systems Modelling using UML • Basic Project management Skills 	<p>ICTICT418 Contribute to copyright, ethics and privacy in an IT env.</p> <p>ICTPRG419 Analyse software reqs.</p> <p>ICTPRG415 Apply skills in object-oriented design</p> <p>ICTPMG401 Support small scale IT projects</p>

How will I be assessed?

For each stream you will need to complete some projects and tests. The projects and tests are spread out over the length of the course. Each teacher will provide you with a semester schedule which lists the assessments and due dates.

How do I enrol?

Visit the website <http://www.nsi.tafensw.edu.au/Courses/EnrollingAndRegistering/Default.aspx> (search for the Course Number **ICT40515**) for information on how to enrol.

Where can I get more information?

Our website contains a lot of important information. <http://infotech.hornsby.tafensw.edu.au/>

If you need to ask questions please contact the course coordinator- **Peter Panagopoulos**

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