

# **Introduction - Application Development**

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# **Subject**

## **What is this subject?**

This subject is Application, this subject is aimed at people who have a foundations or a certain amount of skill and knowledge where they are starting to transition towards being intermediate programmers.

It is also aimed to ensure you hone your skills in other foundational skills such as IO, Data Structures and Algorithms.

# What is this subject?

- We will be using C# for the semester for building our applications.
- You will be using the command line to compile, build and deploy your applications.
- You will be setting up services and servers locally and using git and other tools to build more complex applications.

# Prequisites

For this course there are some pre-requisite knowledge that we expect all students to have.

## Knowledge, Skills and Experience

- Experience programming
- Experience using git and command line
- Networking knowledge and experience
- Experience writing documentation
- Debugging and testing
- Working out problems

# Prequisites

We expect students to have constructed

## Hardware and Software

- Your own laptop/device
- Able to setup your own development environment
- npm, node, mongodb and all those friends

# Good things to do

- Consider using linux as part of development (*why?*)
  - Install WSL
  - Install A Virtual Machine
  - Install Linux on your computer (consider if it is compatible before doing so)
- Writing with markdown
- Using tooling of all kinds and being able to understand and pick it up quickly

# Teaching And Structure

## Aims

The aim of VET courses is to train you so you able to effectively work in the relevant industry and role.

You should also be empowered to be able to pursue and create your own software as well as self-host and build it with tools that are publicly available.

# Teaching and Structure

## After the course

First and foremost, you should feel confident being able to build your own software for your own means either for personal, business or employment.

At the end you are able to pursue:

- A role in industry or adjacent
- Start a business writing software
- Continue your studies at university
- Any of the above + more

# Teaching And Structure

## Keeping the loop

I have designed my courses at TAFE from 2025 onwards to maintain a consistent study loop.

The loop:

1. Lesson - Information, explanations, resources and demo
2. Quiz - Bridge jargon and knowledge gaps
3. Exercises - Practice the content, receive feedback

For diploma, this system will be maintained until we hit the mid-semester break.

# Assessments & Project

Your assessment is split into three components:

- \* Project
- \* Quiz/Documentation
- \* Skills Assessment

These Major Project and Documentation/Quiz are linked, the documentation and quiz is a set of 6 components that require you to demonstrate your knowledge and document your application development.

The application development must produce a suite of applications:

- Server backend
- Frontend application
- Service/Support applications

# **Skills Assessment**

The skills assessment is another take-home project but will require you to complete both knowledge and skills questions (being able to answer questions based on the subject and also demonstrate your skills by completing small to medium size programming tasks).

# Skills Assessment

The skills assessment will be broken up into two pieces, the first two pieces will be related to.

- Data Structures Knowledge
- Data Structures Construction

The last piece is a more substantial program that should demonstrate shared memory and message passing between processes.

# Contact

You can contact me via:

- Email: [tyson.thomas8@tafensw.edu.au](mailto:tyson.thomas8@tafensw.edu.au)
- Teams: tyson.thomas8
- Consultation times:
  - Wednesday: 1pm-4pm, either A1.7 or A1.8a

# Events and Opportunities

There are always fun and exciting things going on, I will encourage everyone here to participate in:

- Hackathons
- Competitions
- Gamejams
- *Events that are relevant*

Although I will have my own bias of what is appropriate, I do encourage everyone to also look into these things in your own time.