



## Course Directive

### ID607001: Introductory Application Development Concepts

### Semester One, 2022

#### Course Information

Credits: 15 Credits  
Prerequisite: IN511: Programming 2  
Timetable: Stream A - Tuesday 1 PM D105b & Friday 8 AM D105b  
Stream B - Tuesday 3 PM D207 & Friday 1 PM D207  
Lunchtime Tutorial - Thursday 12 PM to 1 PM D207 (Optional attendance)

#### Lecturer

Name: Grayson Orr  
Position: Lecturer & Second/Third-Year Coordinator  
Office Location: D318  
Email Address: grayson.orr@op.ac.nz

#### Course Dates

Term 1: Monday 21 February - Thursday 14 April  
Mid Semester Break: Monday 18 April - Friday 29 April  
Term 2: Monday 02 May - Thursday 23 June  
Public Holidays: Friday 15 April (Good Friday)  
Friday 24 June (Matariki)

#### Aims

To introduce the concepts of application development including algorithms, data structures & design patterns that are required to use a simple, industry-relevant development framework.

#### Learning Outcomes

At the successful completion of this course, learners will be able to:

1. Design & build usable, secure & attractive applications with dynamic database functionality following an appropriate software development methodology.

## Assessments

Assessment	Weighting	Due Date	Learning Outcomes
Practical: Node.js REST API Testing Research	20%	13-05-2022 (Friday)	1
Project 1: Node.js REST API	30%	14-04-2022 (Thursday)	1
Project 2: React CRUD	50%	21-06-2022 (Tuesday)	1

## Provisional Schedule

Week	Date	Topics
1	21-02-2022	JavaScript Basics 1 - Declarations, Control Flow, Iterations, Functions, Arrays & Objects
2	28-02-2022	JavaScript Basics 2 - Map, Filter, Reduce, Error Handling & Reading in Data
3	07-03-2022	Node.js REST API 1 - Introduction, Express, In-Memory Storage, Controllers, Routes & Postman
4	14-03-2022	Node.js REST API 2 - MongoDB Atlas, Validation & Relationships
5	21-03-2022	Node.js REST API 3 - JSON Web Tokens & Heroku
6	28-03-2022	Node.js REST API 4 - Seeding, Rate-Limits & Postman Documentation
7	04-04-2022	Project 1: Node.js REST API Assessment Work
8	11-04-2022	Project 1: Node.js REST API Assessment Work
Mid Term Break		
9	02-05-2022	React 1 - Introduction & JSX
10	09-05-2022	React 2 - Components, Axios & Hooks
11	16-05-2022	React 3 - Reactstrap
12	23-05-2022	React 4 - Authentication with JSON Web Tokens (JWT)
13	30-05-2022	React 5 - End-to-End Testing with Cypress
14	06-06-2022	Project 2: React CRUD Assessment Work
15	13-06-2022	Project 2: React CRUD Assessment Work
16	20-06-2022	Project 2: React CRUD Assessment Work

## Resources

### Software

This paper will be taught using **Microsoft Visual Studio Code**. An installer for **Microsoft Visual Studio Code** is available - <https://code.visualstudio.com/download>. Please refer any problems with downloads or installers to **Rob Broadley** in D205a.

### Readings

No textbook is required for this course. URLs to useful resources will be provided in the lecture notes.

# Course Requirements & Expectations

## Learning Hours

This course requires **150 hours** of learning. This time includes **64 hours** of timetabled class time, & **86 hours** of self-directed reading, preparation & completion of assessments.

## Criteria for Passing

To pass this paper, you must achieve a cumulative pass mark of **50%** over all assessments. There are no reassessments or resits.

## Attendance

- Learners are expected to attend all classes, including lectures & labs.
- If you cannot attend for a few days for any reason, contact the course.

## Communication

**Microsoft Outlook/Teams** are the official communication channels for this course. It is your responsibility to regularly check **Microsoft Outlook/Teams** & **GitHub** for important course material, including changes to class scheduling or assessment details. Not checking will not be accepted as an excuse.

## Snow Days/Polytechnic Closure

In the event **Otago Polytechnic** is closed or has a delayed opening because of snow or bad weather, you should not attempt to attend class if it is unsafe to do so. It is possible that the course lecturer will not be able to attend either, so classes will not physically be meeting. However, this does not become a holiday. Rather, the course material will be made available on **GitHub** for classes affected by the closure. You are responsible for any course material presented in this manner. Information about closure will be posted on the **Otago Polytechnic Facebook** page <https://www.facebook.com/OtagoPoly>.

## Group Work & Originality

Learners in the **Bachelor of Information Technology** programme are expected to hand in original work. Learners are encouraged to discuss assessments with their fellow learners, however, all assessments are to be completed as individual works unless group work is explicitly required (i.e. if it doesn't say it is group work then it is not group work - even if a group consultation was involved). Failure to submit your original work will be treated as plagiarism.

## Referencing

Appropriate referencing is required for all work. Referencing standards will be specified by the course lecturer.

## Plagiarism

Plagiarism is submitting someone else's work as your own. Plagiarism offences are taken seriously & an assessment that has been plagiarised may be awarded a zero mark. A definition of plagiarism is in the Student Handbook, available online or at the school office.

## Submission Requirements

All assessments are to be submitted by the time, date, & method given when the assessment is issued. Failure to meet all requirements will result in a penalty of up to **10%** per day (including weekends).

## Extensions

Extensions are only available for unusual circumstances. These must be applied for, & approved, before the submission date.

## Impairment

In case of sickness contact the course lecturer or **Head of Information Technology (Michael Holtz)** as soon as possible, preferably before the assessment is due. The policy regarding the granting of a mark that considers impaired performance requires a medical certificate & a medical practitioner's signature on a form. You may refer to the guide on impaired performance on the student handbook.

## Appeals

If you are concerned about any aspect of your assessment, approach the course lecturer in the first instance. We support an open-door policy & aim to resolve issues promptly. Further support is available from the **Head of Information Technology (Michael Holtz) & Second/Third-Year Coordinator (Grayson Orr)**. Otago Polytechnic has a formal process for academic appeals if necessary.

## Other Documents

Regulatory documents relating to this course can be found on the **Otago Polytechnic** website.