



# Course Directive

## Intermediate Application Development Concepts/Tāura o Te Taupānga Tukutuku

### Semester One, 2023

#### Course Information

Level:	6
Credits:	15
Prerequisite:	ID607001: Introductory Application Development Concepts
Timetable:	Rōpū Kōwhai: Monday 08.00 AM D201 and Thursday 08.00 AM D207
Lecturer-Led Tutorials:	Thursday 8.30 PM - 10.00 PM

#### Teaching Staff

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

#### Course Dates

Term 1:	Monday 17 July - Friday 22 September
Mid Semester Break:	Monday 25 September - Friday 06 October
Term 2:	Monday 09 October - Friday 17 November

#### Public Holidays and Anniversary Days

A list of public holidays and anniversary days can be found here - <https://www.op.ac.nz/students/importantdates>

#### Aims

To extend the concepts of application development including algorithms, data structures and design patterns that are required to use a complex, industry-relevant frameworks or libraries.

#### Learning Outcome

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

1. Apply design patterns and programming principles using software development best practices.
2. Design and implement full-stack applications using industry relevant programming languages.

## Assessments

Assessment	Weighting	Due Date	Learning Outcomes
Practical: Skills-Based	20%	31-03-2023 (Fri at 10.00 AM)	1
Project 1: Next.js Hacker News App	30%	27-04-2023 (Thur at 4.59 PM)	1 and 2
Project 2: Node.js and Express Pub Quiz App	50%	15-06-2023 (Thur at 4.59 PM)	1 and 2

## Provisional Schedule

Week	Date Starting	Topics
1/Tahi	20-02-2023	Development Workflow and React
2/Rua	27-02-2023	Next.js
3/Toru	06-03-2023	Styling - CSS Modules and Tailwind CSS
4/Whā	13-03-2023	State Management
5/Rima	20-03-2023	Component Testing and Storybook
6/Ono	27-03-2023	Practical Work
7/Whitu	03-04-2023	Project 1 Work
8/Waru	24-04-2023	Project 1 Work
9/Iwa	01-05-2023	Express, HTTPS, OWASP Risks, CORS, CSP and Server Security
10/Tekau	08-05-2023	Authentication and JSON Web Token (JWT)
Mid Term Break		
11/Tekau mā tahi	15-05-2023	Authorisation and Access Control
12/Tekau mā rua	22-05-2023	Automation Testing and Code Coverage
13/Tekau mā toru	29-05-2023	Caching and Compression
14/Tekau mā whā	05-06-2023	Project 2 Work
15/Tekau mā rima	12-06-2023	Project 2 Work
16/Tekau mā ono	19-06-2023	Catch Up Week

## Provisional Schedule

Week	Date Starting	Topics
1/Tahi	17-07-2023	Development Workflow and JavaScript
2/Rua	24-07-2023	Express, Postman and Deployment
3/Toru	31-07-2023	PostgreSQL, ORM and Relationships
4/Whā	07-08-2023	Validation
5/Rima	14-08-2023	Seeding and Automation Testing
6/Ono	21-08-2023	JSDoc and Postman Documentation
7/Whitu	28-08-2023	Practical and Project Work
8/Waru	04-09-2023	Practical and Project Work
9/Iwa	11-09-2023	React 1: Installation and Developer Tools
10/Tekau	18-09-2023	React 2: Describing the UI
Mid Term Break		
11/Tekau mā tahi	09-10-2023	React 3: Adding Interactivity
12/Tekau mā rua	16-10-2023	React 4: Managing State
13/Tekau mā toru	23-10-2023	React 5: HTTP Requests
14/Tekau mā whā	30-10-2023	Project 2 Work
15/Tekau mā rima	06-11-2023	Project 2 Work
16/Tekau mā ono	13-11-2023	Catch Up Week

## Resources

### Software

This paper will be taught using **Microsoft Visual Studio Code** and **Node.js**. An installer for **Microsoft Visual Studio Code** and **Node.js** are available - <https://code.visualstudio.com/download> and <https://nodejs.org/en/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 and Expectations

### Learning Hours

This course requires **150 hours** of learning. This time includes **64 hours** of timetabled class time, and **86 hours** of self-directed reading, preparation and 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 and 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** and [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 — Te Pūkenga** 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 teaching staff 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 | Te Pūkenga Facebook** page <https://www.facebook.com/OtagoPoly>.

## Group Work and 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.

## ChatGPT

In this course, you will be encouraged to use **ChatGPT** for your assessments. Learning to use Artificial Intelligence tools is an important skill. While **ChatGPT** is a powerful tool, you must be aware of the following:

- If you provide **ChatGPT** with a prompt that is not refined enough, it may generate a not-so-useful response
- Do not trust **ChatGPT's** responses blindly. You must still use your judgement and may need to do additional research to determine if the response is correct
- Acknowledge that you are using **ChatGPT**. In the assessment's repository **README.md** file, please include what prompt(s) you provided to **ChatGPT** and how you used the response(s) to help you with your work

## Referencing

Appropriate referencing is required for all work. Referencing standards will be specified by the teaching staff.

## Plagiarism

Plagiarism is submitting someone else's work as your own. Plagiarism offences are taken seriously and 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, and 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

Familiarise yourself with the assessment due dates. Extensions will **only** be granted if you are unable to complete the assessment by the due date because of **unforeseen circumstances outside your control**. The length of the extension granted will depend on the circumstances and must be negotiated with the course lecturer before the assessment due date. A medical certificate or support letter may be needed. Extensions will not be granted for poor time management or pressure of other assessments.

## Impairment

In case of sickness contact the teaching staff 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 and 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 teaching staff in the first instance. We support an open-door policy and aim to resolve issues promptly. Further support is available from the **Head of Information Technology (Michael Holtz)** and **Second/Third-Year Coordinator (Grayson Orr)**. **Otago Polytechnic — Te Pūkenga** has a formal process for academic appeals if necessary.

## Other Documents

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