Course Directive
ID607001: Introductory Application Development Concepts
Semester Two, 2024

Course Information

Level:	6
Credits:	15
Prerequisite:	ID511001: Programming 2
Timetable:	Rōpū Kōwhai: Wednesday 3.00 PM D207 and Friday 1.00 PM D207

Teaching Staff

Name:	Grayson Orr
Position:	Senior Lecturer and Second/Third-Year Coordinator
Office Location:	D309
Email Address	grayson.orr@op.ac.nz

Course Dates

Term 3 (10 weeks):	22 July - 27 September
Mid Semester Break:	30 September - 11 October
Term 4 (6 weeks):	14 October - 22 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 introduce the concepts of application development including algorithms, data structures and design patterns that are required to use a simple, industry-relevant development framework.

Learning Outcome

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

1. Design and build secure applications with dynamic database functionality following an appropriate software development methodology.

Assessments

Assessment	Weighting	Due Date	Learning Outcome
Practical	20%	13-11-2024 (Wednesday at 4.59 PM)	1
Project	80%	13-11-2024 (Wednesday at 4.59 PM)	1

Grade Table - Criterion Referenced

Grade	Mark Range
A+	Met all course requirements-mark in range [90-100]
A	Met all course requirements-mark in range [85-89]
A-	Met all course requirements-mark in range [80-84]
B+	Met all course requirements-mark in range [75-79]
B	Met all course requirements-mark in range [70-74]
B-	Met all course requirements-mark in range [65-69]
C+	Met all course requirements-mark in range [60-64]
C	Met all course requirements-mark in range [55-59]
C-	Met all course requirements-mark in range [50-54]
D	There at end. Did not meet course requirements. Mark in range [40-49]
E	There at end. Did not meet course requirements. Mark in range [0-39]

Provisional Schedule

Week	Topics
1/Tahi	GitHub and JavaScript
2/Rua	Express, HTTP Methods, HTTP Status Codes and HTTP Headers
3/Toru	Render, PostgreSQL, ORM, JSDocs and Swagger
4/Whā	API Versioning, Content Negotiation, Relationships and Repository Pattern
5/Rima	Validation, Filtering, Sorting and Pagination
6/Ono	Authentication, Max Retry, Jail and Role-Based Access Control
7/Whitu	HTTP Caching, Compression, Rate Limiting and Securing HTTP Headers
8/Waru	Database Seeding and API Testing
9/Iwa	ERD Generation and README.md Setup
10/Tekau	REST API Integration with Frontend Application
Mid Semester Break	
11/Tekau mā tahi	Assessment Work
12/Tekau mā rua	Assessment Work
13/Tekau mā toru	Assessment Work
14/Tekau mā whā	Assessment Work
15/Tekau mā rima	Assessment Work
16/Tekau mā ono	Assessment Marking

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 **60 hours** directed learning hours and **90** self-directed learning hours.

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 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 | 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

Learning to use **Artificial Intelligence tools** like **ChatGPT** 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 course lecturer.

Plagiarism

Plagiarism is submitting someone elses 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 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 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 course lecturer 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.