



COMP3120

Advanced Web Development

Session 2, In person-scheduled-weekday, North Ryde 2026

School of Computing

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General Information

Unit convenor and teaching staff

Convenor

Michael Lay-Kujiraoka

michael.lay@mq.edu.au

Contact via Email

Credit points

10

Prerequisites

130cp at 1000 level or above including COMP2110

Corequisites

Co-badged status

Unit description

This unit develops on the student's basic understanding of web technologies to look at the tools and techniques used in modern web development. Topics will include the software development lifecycle in web development, the use of continuous integration, deployment of web applications, the use and provision of API services, security and e-commerce. The unit is practically focused but aims to equip students to be able to adapt to the rapidly changing landscape of tools in web development.

Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals ([UNSDGs](#)) Industry, Innovation and Infrastructure

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

ULO1: Demonstrate an understanding of the architecture of web applications and the technologies used to build them

ULO2: Evaluate alternate implementation technologies for web applications

ULO3: Implement a significant web application that integrates front-end and back-end

components

ULO4: Assess the security risks in web applications

ULO5: Communicate clearly and effectively

General Assessment Information

REQUIREMENTS TO PASS THE UNIT

To pass this unit you must:

- Achieve a total mark equal to or greater than 50%.

INDIVIDUAL WEB DEVELOPMENT PORTFOLIO

In this task you will build an individual portfolio of back-end and front-end projects.

FORUM POSTS AND INTERACTION

Students will post to forums on topics related to web technology and security and respond to posts by other students. The forum contributions will be assessed at a single point in time.

GROUP WEB DEVELOPMENT PROJECT

Students will form groups to implement a major web application. This will involve all stages of the development cycle from requirements gathering to deployment and testing. 30% group and 10% individual component. Students will demonstrate their contribution to the project via a reflective journal, presentation, and commit logs from the project repository.

LATE ASSESSMENT SUBMISSION PENALTY

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is **11:55 pm**. A 1-hour grace period will be provided to students who experience technical concerns. For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for [Special Consideration](#). For example, if the assignment is worth 8 marks (of the entire unit) and your submission is late by 19 hours (or 23 hours 59 minutes 59 seconds), 0.4 marks (5% of 8 marks) will be deducted. If your submission is late by 24 hours (or 47 hours 59 minutes 59 seconds), 0.8 marks (10% of 8 marks) will be deducted, and so on.

Assessments where Late Submissions will be accepted:

- Individual Web Development Portfolio - YES, Standard Late Penalty applies

- Forum Posts and Interaction - NO, unless Special Consideration is granted
- Group Web Development Project - NO, unless Special Consideration is granted

RELEASE

- Individual Web Development Portfolio - Specifications to be released no later than 2nd August 2026.
- Forum Posts and Interaction - Specifications to be released no later than 4th October 2026.
- Group Web Development Project - Specifications to be released no later than 25th October 2026.

SPECIAL CONSIDERATION

The [Special Consideration Policy](#) aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through <http://connect.mq.edu.au/>.

AI APPROACH

- **Open** These assessments do not restrict the application of AI tools. However, it is expected that the use of AI is acknowledged in an appropriate manner, similar to the expectation to provide references for other resources or tools that are used in producing your work. Any use of AI should comply with the University's [Responsible and Ethical Use of Artificial Intelligence Policy](#).
- **Observed** These tasks are either fully or partly observed or invigilated. AI use will either not be permitted or will be restricted during the assessment.

For more information, please see <https://students.mq.edu.au/study/assessment-exams/assessments/ai-and-assessment>

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Individual Web Development Portfolio	40%	No	27/09/2026	Individual	Yes	Open

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Forum Posts and Interaction	20%	No	18/10/2026	Individual	No	Open
Group Web Development Project	40%	No	W13, Tue 11:55pm submission (03/11/26) + W13 in seminar	Individual and Group	No	Open

Individual Web Development Portfolio

Assessment Type [1](#): Portfolio

Indicative Time on Task [2](#): 30 hours

Due: **27/09/2026**

Weighting: **40%**

Groupwork/Individual: Individual

Short extension [3](#): Yes

AI Approach: Open

In this task you will build an individual portfolio of back-end and front-end projects.

On successful completion you will be able to:

- Demonstrate an understanding of the architecture of web applications and the technologies used to build them
- Evaluate alternate implementation technologies for web applications
- Communicate clearly and effectively

Forum Posts and Interaction

Assessment Type [1](#): Written Submission

Indicative Time on Task [2](#): 10 hours

Due: **18/10/2026**

Weighting: **20%**

Groupwork/Individual: Individual

Short extension [3](#): No

AI Approach: Open

Students will post to forums on topics related to web technology and security and respond to posts by other students. The forum contributions will be assessed at a single point in time.

On successful completion you will be able to:

- Demonstrate an understanding of the architecture of web applications and the

technologies used to build them

- Evaluate alternate implementation technologies for web applications
- Communicate clearly and effectively

Group Web Development Project

Assessment Type ¹: Portfolio

Indicative Time on Task ²: 50 hours

Due: **W13, Tue 11:55pm submission (03/11/26) + W13 in seminar**

Weighting: **40%**

Groupwork/Individual: Individual and Group

Short extension ³: No

AI Approach: Open

Students will form groups to implement a major web application. This will involve all stages of the development cycle from requirements gathering to deployment and testing.

On successful completion you will be able to:

- Demonstrate an understanding of the architecture of web applications and the technologies used to build them
- Evaluate alternate implementation technologies for web applications
- Implement a significant web application that integrates front-end and back-end components
- Assess the security risks in web applications
- Communicate clearly and effectively

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- [Academic Success](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation.

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

CLASSES

The majority of teaching materials for this unit will be made available online in the form of videos and linked readings. We will post a number of videos each week and you should watch these

and follow up on the readings before the weekly seminar.

The seminar is a three hour class where we will review, discuss and practically apply the content of the week. You will get the most out of this session if you are prepared. Turning up without watching the videos, reaching the notes, and trying examples will mean you can't take advantage of the session. **Seminars start from Week 1 to Week 13.**

REQUIRED TEXTS

The unit will be based on the online course:

[Deep Dive Into Modern Web Development - Full Stack Open](#)

The materials provided on this site will form the foundation of this unit but we will look beyond them to study the broader landscape of web development. In particular, while the online course covers React, students are encouraged to review and even make use of other frameworks to understand how they might meet the needs of a particular project.

REQUIRED TECHNOLOGY

This unit makes use of Javascript as the core implementation technology and you should install the tools as outlined in the online course linked above. Students may also choose to explore other web toolkits at their discretion.

We will make use of [GitHub](#) to manage source code for student projects. Students should establish a GitHub account if they don't already have one. Use your real name or something professional for your account as it will become the basis of your portfolio and you will want to show future employers the projects you have completed.

METHODS OF COMMUNICATION

We will communicate with you via your university email or through announcements on iLearn. Queries to teaching staffs can either be placed on the iLearn discussion board or via email from your university email address. You should send general queries through the iLearn discussion board, while queries of a personal nature should be sent by email.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.s.mq.edu.au\)](https://policies.s.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)

- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit connect.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Academic Success

[Academic Success](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Ask a Study Coach](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit <https://students.mq.edu.au/support/technology/service-desk>.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

We value student feedback to be able to continually improve the way we offer our units. As such we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link in the iLearn page.

Student feedback from the previous offering of this unit was very positive overall, with students pleased with the clarity around assessment requirements and the level of support from teaching staff. As such, no change to the delivery of the unit is planned, however we will continue to strive to improve the level of support and the level of student engagement.

Unit information based on version 2026.02 of the [Handbook](#)