COMP6110

Web Technology

Session 1, In person-scheduled-weekday, North Ryde 2025

School of Computing

Contents

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Credit points 10
Prerequisites COMP6010
Corequisites
Co-badged status COMP2110
Unit description This unit covers a range of techniques and concepts that are relevant to implementing systems on the world wide web. From web site development using HyperText Markup Language (HTML) and eXtensible Markup Language (XML), through to complete client-server applications, the unit explores the full spectrum of this technology, providing insight into the standards underlying the web and the programming techniques used to exploit these standards to build web applications. Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals (UNSDGs) Industry, Innovation and Infrastructure; Peace, Justice and Strong Institutions

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: Use your knowledge of the underlying technologies of the web to communicate in detail how web applications work

ULO2: Critique web design and apply good design principles to develop accessible web applications.

ULO3: Design and develop a data driven web application using modern web technologies.

ULO4: Demonstrate knowledge of security, privacy and ethical issues relating to web applications

ULO5: Develop and debug Javascript code as part of a web application

General Assessment Information

Requirements to Pass this Unit

To pass this unit you must:

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

Assessments Release Dates

- Workshop Tasks: Week 1 Sunday 2 March 11:55 pm
- Web Development Project: Week 3 Sunday 16 March 11:55 pm

Workshop Feedback

To progressively enhance learning every week, practical classes are structured to provide ongoing workshop feedback.

- **Weekly Tasks:** In each practical session, specific tasks must be completed and committed to the GitHub Workshop repository.
- **Ongoing Improvement:** Feedback will be provided during practical classes to help refine the work and boost learning throughout the 12 weeks.
- **Final Assessment:** The GitHub Workshop repository, containing all weekly task submissions, will be assessed at the end of the semester.

Late Submission

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 a technical concern.

For any late submission of time-sensitive tasks, such as scheduled exams, please apply for Special Consideration.

Assessments where Late Submissions will be accepted:

- Final Workshop GitHub Repository - YES, standard Late Penalty applies
- Web Development Project - YES, standard Late Penalty applies

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.

Workshop Tasks: This assessment task has a number of feedback points in class. If you are affected by an unavoidable disruption for one of these feedbacks, you should **NOT** apply for Special Consideration. If you miss a class, you should ensure that you follow the workshop materials available online and contact the teaching staff if you have questions. **Note that a Special Consideration should only be requested if you miss the final submission deadline of Final Workshop GitHub Repository.**

Web Development Project: This assessment task has a number of submission points, both individual and group submissions. If you are affected by an unavoidable disruption for one of these submissions you should apply for Special Consideration and an extension of time will usually be granted. For a group submission, an extension for the whole group will be considered.

Final Exam: The exam will be conducted on-campus under invigilation. Supplementary exams are available for students with approved special considerations.

Assessment Tasks

Name	Weighting	Hurdle	Due
Workshop Tasks	20%	No	Weekly and Final Submission: Week 13, Sunday 11:55pm
Web Development Project	40%	No	Weeks 5, 10, 12, Sunday 11:55pm
Exam	40%	No	Exam Period

Workshop Tasks

Assessment Type [1]: Practice-based task
Indicative Time on Task [2]: 10 hours
Due: **Weekly and Final Submission: Week 13, Sunday 11:55pm**
Weighting: **20%**

Tasks completed during practical classes will be committed to Github.

On successful completion you will be able to:

- Use your knowledge of the underlying technologies of the web to communicate in detail how web applications work
- Critique web design and apply good design principles to develop accessible web applications.
- Design and develop a data driven web application using modern web technologies.

- Demonstrate knowledge of security, privacy and ethical issues relating to web applications

- Develop and debug Javascript code as part of a web application

Web Development Project

Assessment Type [1]: Project
Indicative Time on Task [2]: 50 hours
Due: **Weeks 5, 10, 12, Sunday 11:55pm**
Weighting: **40%**

In this project you will develop a web application and deploy it to the internet. The project will involve design, programming and devops activities and will be carried out in a group with some individually assessable components.

On successful completion you will be able to:

- Use your knowledge of the underlying technologies of the web to communicate in detail how web applications work

- Critique web design and apply good design principles to develop accessible web applications.

- Design and develop a data driven web application using modern web technologies.

- Develop and debug Javascript code as part of a web application

Exam

Assessment Type [1]: Examination
Indicative Time on Task [2]: 12 hours
Due: **Exam Period**
Weighting: **40%**

The final exam will asses your ability to describe and explain the technologies we have covered in the unit. It will cover all of the material in the unit including aspects of the Web Development Project.

On successful completion you will be able to:

- Use your knowledge of the underlying technologies of the web to communicate in detail how web applications work

- Critique web design and apply good design principles to develop accessible web applications.
- Demonstrate knowledge of security, privacy and ethical issues relating to web applications

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[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
- the Writing Centre 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

Delivery and Resources

Classes

COMP6110 is taught mainly through online notes and video presentations with a one-hour lecture. Each week a number of video presentations will be made available on iLearn, you should watch these and follow up on the topics covered before the lecture. The lecture will recap some of the video content and provide a forum for discussion of the topics of the week, as well as preview the video content in the following week.

You will also have a two-hour workshop each week in the computer laboratory. This will be used as a combined tutorial and practical class, with tasks each week to engage you in the topics we are discussing. The workshops give you a chance to talk over any problems with your tutor. There will be a checkpoint task each week for you to complete in the workshop, you must do this in the workshop and show your tutor the result.

Since your tutor will be keeping track of your marks, you should attend the workshop that you enroll in. If you do need to change, make sure your tutor and the tutor in the new class agree.

Week 1

Lectures start in week 1. **There is no workshop class in Week 1 but there is a non-workshop task that you can gain marks for - see iLearn for details.** Workshops start in week 2 and you should complete the week 1 activity before your first class.

Required Texts

There is no required text for COMP6110. We have written a set of notes for the unit which will be added to through the semester. You can find them here:

- Practical Web Programming

We will also provide notes, slides and links to other resources each week. It is important that you

follow up links provided with the video presentations and in the notes on each topic.

Required Technology

We will use Visual Studio Code as the recommended development environment although you are free to use your own favourite editor if you wish. You will be making use of a number of different web browsers (Firefox, Internet Explorer, Chrome, Safari, Opera...) to test web pages. You will use Node Javascript engine. All of this software will run on Windows, Mac or Linux.

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 sent emails from your university email address.

Unit Schedule

The schedule below outlines the planned activities for the unit. Please note that minor changes may be made in response to student feedback or other factors. See the iLearn unit page for the definitive and more detailed week-by-week breakdown.

Week	Topic	Lecturer	Assessment
1	HTML, CSS, HTTP, Javascript	EX	
2	Web servers and services	EX	Weekly Tasks[1]
3	The Javascript language, objects, DOM	EX	Weekly Tasks[1]
4	Interactions through Javascript	SC	Weekly Tasks[1]
5	Debugging Javascript, modules, form handling	SC	Weekly Tasks[1], Project-Part1: Individual Web Development[2]
6	Web Components, single page web apps	SC	Weekly Tasks[1]
7	Using Fetch to interact with servers	EX	Weekly Tasks[1], Group Formation[3]
Mid Sem Break			
8	Usability and Accessibility	EX	Weekly Tasks[1]
9	The process of building a web application	EX	Weekly Tasks[1]
10	Server side Javascript programming	SC	Weekly Tasks[1], Project-Part2: Group Portal Development[3]
11	Databases, cookies	SC	Weekly Tasks[1]

12	Authentication, passwords and threat models for web servers	SC	Weekly Tasks[1], Project-Part3: Deployment and Final Reports[3]
13	Review	EX/SC	Weekly Tasks[1], Final Workshop Github repo[1]
Exam Period			

[1] The initial commit of Weekly Tasks to Workshop GitHub repository is due by Sunday at 11:55 pm each week. The final commit to Workshop GitHub repository is due by Sunday 8 June 11:55 pm. Weekly Tasks are released in your registered Practical classes each week.

[2] Project-Part1: Individual Web Development is due by Sunday 30 March 11:55 pm, and to be released no later than Sunday 16 March 11:55 pm.

[3] Project-Part2: Group Portal Development is due by Sunday 18 May 11:55 pm. Project-Part3: Deployment and Final Reports is due by Sunday 1 June 11:55 pm. Their specifications are to be released no later than 28 April 11:55 pm. The group formation is due in Week 7 during the practical class in which you are registered.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.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). 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) 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.

- Workshops
- Chat with a WriteWISE peer writing leader
- 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 http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

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

This offering retains much of last year's structure with a few key adjustments: the schedule now follows a weekly format, early group formation and check-in sessions during workshops will ensure smoother collaboration, and the HTML+CSS components have been de-emphasized in favour of expanding the JavaScript portion to help students achieve greater mastery.

Computing Drop-In Centre (CDC)

COMP6110 is supported by the Computing Drop-in Centre (CDC) that operates daily (weekdays) from,

- 10:00 to 12:00,
- 13:00 to 15:00,
- 16:00 to 18:00

The web page contains further information including,

- location,
- the service agreement about what the centre can and cannot help you with,
- week in which the service begins,
- other units supported by the centre,
- roster (as not all time slots will have staff supporting every unit).

Unit information based on version 2025.03 of the Handbook