COMP6110

Web Technology

Session 1, In person-scheduled-weekday, North Ryde 2022

School of Computing

Contents

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General Information

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Credit points
10

Prerequisites
COMP6010

Corequisites

Co-badged status

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.

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 ethical and legal issues relating to web applications

ULO5: Use automated and other tests to ensure that implementations match client and accessibility requirements.

General Assessment Information

Workshop Hurdle

The workshop is a hurdle requirement, you must get 8 out of the possible 10 marks to pass the hurdle but you will have a total of 12 weeks where you could attend - hence you can miss at most four weeks of workshop tasks.

Late Submission

Late submissions **will be accepted but will incur a penalty** unless there is an approved Special Consideration request. A 12-hour grace period will be given after which the following deductions will be applied to the awarded assessment mark: 12 to 24 hours late = 10% deduction; for each day thereafter, an additional 10% per day or part thereof will be applied until five days beyond the due date. After this time, a mark of zero (0) will be given. For example, an assessment worth 20% is due 5 pm on 1 January. Student A submits the assessment at 1 pm, 3 January. The assessment received a mark of 15/20. A 20% deduction is then applied to the mark of 15, resulting in the loss of three (3) marks. Student A is then awarded a final mark of 12/20.

Assessment Tasks

Name	Weighting	Hurdle	Due
Workshop Tasks	10%	No	Weekly
Web Design	5%	No	Week 4
Web Application	35%	No	End of mid-semester break and Week 10

Name	Weighting	Hurdle	Due
Legal & Ethical Report	10%	No	Week 12
Exam	40%	No	Exam period

Workshop Tasks

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 0 hours
Due: **Weekly**
Weighting: **10%**

Each week there will be a task set during the practical workshop that you will need to complete.
You will need to attend the workshop to complete this task and show your work to your tutor.
Each week will be worth 1 mark up to a total of 10.

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 ethical and legal issues relating to web applications
- Use automated and other tests to ensure that implementations match client and accessibility requirements.

Web Design

Assessment Type [1]: Design Task
Indicative Time on Task [2]: 10 hours
Due: **Week 4**
Weighting: **5%**

This is a design task using CSS. You will be asked to write a CSS stylesheet for a sample web page. The results will be peer-marked - you will be given the chance to see the work of other students and provide marks and feedback. The final mark will be based on marks given by your peers.

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.

Web Application

Assessment Type [1]: Programming Task
Indicative Time on Task [2]: 42 hours
Due: **End of mid-semester break and Week 10**
Weighting: **35%**

This is a programming task. You will develop a web application that makes use of a data store. You will be provided with a set of tests that your code must pass as well as a set of functional requirements for the application.

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.
- Use automated and other tests to ensure that implementations match client and accessibility requirements.

Legal & Ethical Report

Assessment Type [1]: Report
Indicative Time on Task [2]: 10 hours
Due: **Week 12**
Weighting: **10%**

You will write a report on the legal and ethical aspect of web design and development. This will involve you researching the topic to find sources of information and using them to develop your report. You will be provided with pointers to resources but will be expected to find more based on your own research.

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

- Demonstrate knowledge of ethical and legal issues relating to web applications

Exam

Assessment Type [1]: Examination
Indicative Time on Task [2]: 10 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.

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 ethical and legal 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

COMP2110 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.

Required Texts

There is no required text for COMP2110. 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. All of this software will run on Windows, Mac or Linux. Strapi will be introduced as a more robust server-side package in the unit. It implements a backend JSON server that can be used to serve data to a front-end Javascript application.

Unit Schedule

The schedule below is the planned topic list for the unit but 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	Date	Topic	Who	Assessment
1	21/2	Core Web Technology	SC	
2	28/2	HTML and CSS	SC	
3	7/3	Elements of Design	SC	
4	14/3	Introduction to Javascript	SC	Web Design
5	21/3	Single Page Web Application	SC	

6	28/3	Web Servers and Services, Forms	SC	
7	4/3	Building Server Side	KS	
Break				Web Application half-way submission
8	25/3	Cookies and Sessions	KS	
9	2/4	Usability and Accessibility	KS	
10	9/4	Mobile Web Application	KS	Web Application Final
11	16/4	Full Stack	KS	
12	23/4	Security on the Web	KS	Legal & Ethics Report
13	30/4	Review	SC/KS	

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 ask.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/

The Writing Centre

The Writing Centre 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 Enquiries

Got a question? Ask us via AskMQ, 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.