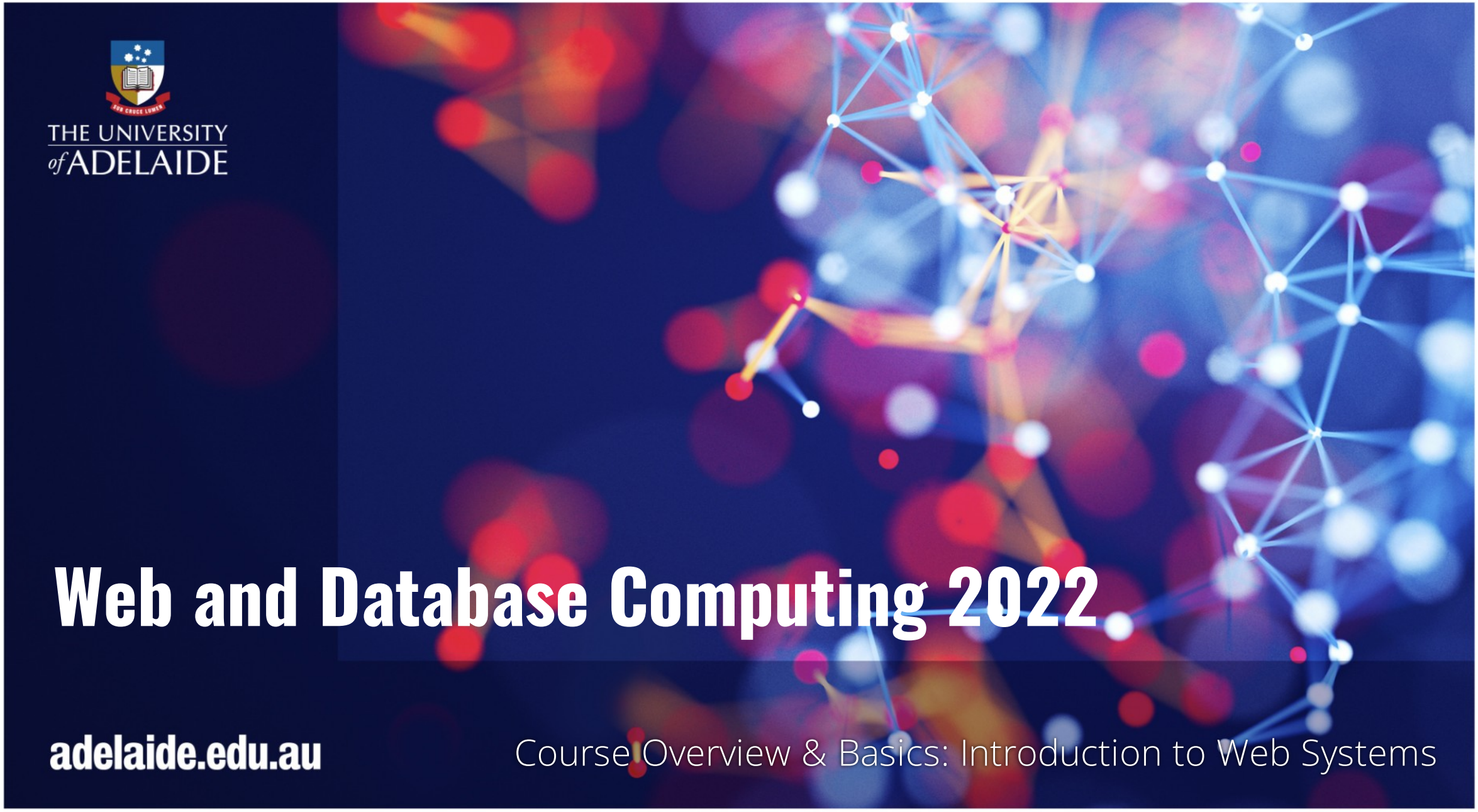
We will start shortly

We acknowledge and pay our respects to the Kaurna people, the traditional custodians whose ancestral lands we gather on.

We acknowledge the deep feelings of attachment and relationship of the Kaurna people to country and we respect and value their past, present and ongoing connection to the land and cultural beliefs.


THE UNIVERSITY
of ADELAIDE
Web and Database Computing 2022
adelaide.edu.au
Course Overview & Basics: Introduction to Web Systems

Brief Admin

Have you reviewed the before-lecture content?

If not, watch the HTML Introduction now

What is this course?

This is course about the fundamental priciples behind the Internet & Web Applications, and how we can use those principles to build basic full-stack web applications following good practice.

What this course isn't

This is **NOT** a course about:

- ✗ Building a pretty web page for your cat/friend/uncle's business
- ✗ How to build React apps ...
- ✗ or running PHP ...
- ✗ or the particular full-stack of your preference
- ✗ Walking through all the minute details of how to do each task step-by-step

Learning Outcomes

We will be using:

- HTML
- CSS
- Javascript
- Vue.js
- NodeJS
- Express
- AJAX
- Different APIs
- OpenID
- MySQL/MariaDB

To build our own web applications & understand the principles behind them.

Should I be in this course?

✓ I'm a 2nd-year Computer Science or Engineering Student and have successfully completed
COMP SCI 1102 Object Oriented Programming
or
✓ I'm a 2nd-year IT Student and have successfully completed
COMP SCI 1015 Intro to Programming for IT
AND
COMP SCI 1013 Intro to Computer Systems, Networks & Security
or
✓ I have strong professional experience as a full-stack web developer (Do I even need to be here?)

Yes!

Should I be in this course?

- ✗ I'm a first-year student
- ✗ I did some HTML in high-school so I don't need the other pre-requisites, right?
- ✗ I haven't passed either
  COMP SCI 1102 Object Oriented Programming
  or both of
  COMP SCI 1015 Intro to Programming for IT
  AND
  COMP SCI 1013 Intro to Computer Systems, Networks & Security

No!

Almost 50% of students missing pre-requisites fail this course.

You'll get more out of this course if you are properly equipped to begin with

Should I be in this course?

❌ I'm taking Computer Systems at the same time

I don't recommend it.

Both of these courses have a heavy workload. There's a reason they are in different semesters in your study plan.

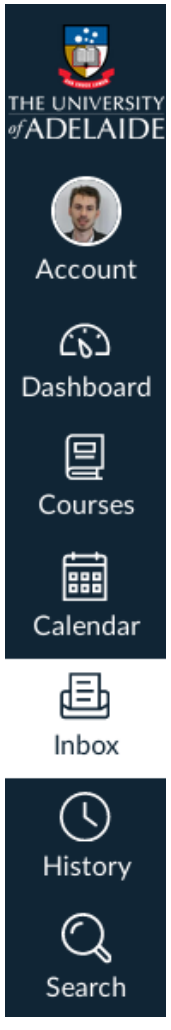
Who we are

Course Coordinator & Lecturer
Ian Knight

Workshop Supervisors
Bryce Simmons
Matt Brennan
Prashant Singh
Bryant (Tu) Lan

On Discord, WeChat, Piazza
Angela Qin

Contacting Us



Contact Ian, your Course Coordinator & Lecturer for all Course Admin, Assessment & Grading related questions.

For this course use **MyUni** Inbox

Other channels may get missed/delayed.

Classes

Lectures

- Come prepared
- Tuesdays' lectures will focus on examples and discussion, not introducing new content

Workshops

- Start week 2
- Supervised study sessions
- Good opportunity for groupwork
- Remote students have Zoom workshops.

Discussion Board

We're using Piazza!

- Allows the whole class to collaborate on answers
- Has categories/tags to make searching easier & notifies for similar questions.

Piazza

Discussion ettiquette

Before Asking

- Check the relevant cateogry/tag in Piazza; has this question already been asked/answered?
  Saves everyone time!

When asking/answering questions

- Avoid posting large/complete sections of code (even if errors)

When posting anonymously

- Don't use `Anonymous to everyone` if you want one of us to be able to check your work (use `Anonymous to Classmates` instead)
- Remember to be polite/civil. We can ban users of anonymous posts.

Other Channels

- We have a Discord server
- We have a WeChat Group

Piazza

Assessment

You can view a more detailed overview on MyUni

Quiz 5%	Prac Exercises 20%	Web App Project 30%	Final Assessment 45% (HURDLE)

Quizzes:

- Questions given/discussed in lectures.
- Due before each lecture.
- Start in Week 2.

Prac Exercises:

- Start in Week 2.
- Further details in each exercise.

Web Application Project:

- Groups of 4.
- Start in Week 5.
- Further details given before end of Week 4.

Final Assessment:

- 40% Hurdle;
  If you do not achieve at least 40% in the final assessment, your final grade will be capped at 45F.
- Supp Assessment available if final grade in 45-49

Final Assessment is a Hurdle requirement

Cheating Detection ...

We check your code:

Plagiarism checker result example

We check your code:

Plagiarism checker result example

Academic Honesty Policy

You can view the policy at https://www.adelaide.edu.au/policies/230/

In brief summary:

- Don't copy other peoples' work.
- Don't submit work that is not 100% your own.
- Don't do anything that gives you an unfair advantage over other students.

If unsure, speak to your Lecturer

Extensions

- Talk to me/message me on MyUni.
- The sooner the better.
- If in doubt, get one!

How to get the most out of this course

Everything makes sense when someone else explains it.

- Ability to read a solution != ability to write a solution
- This is a hands-on course; try all the things!

Be active in your learning! Come prepared for discussions and to solve problems

- This requires discipline if you're only watching the recordings

Do the practical assignments

- These will help you to gain the skills needed for group project
- Keep up with the milestones

Plan to attend Workshops/Online Discussions

- This is where you will get the most individual feedback and is the best opportunity to ask questions.

Bonus Employment Oportunities

Sometimes employers contact me looking for web developers ...

Questions?

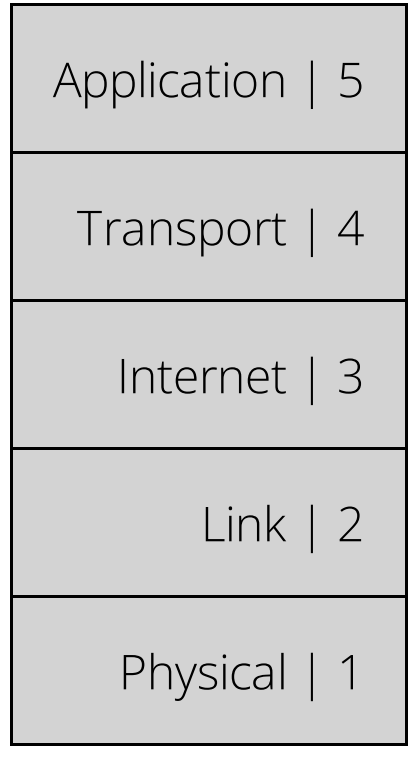
The Internet

"The Internet (contraction of interconnected network) is the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies."
-Wikipedia

The TCP/IP layer model

- In networking, the Internet is viewed as a series of layers that perform specific tasks, with each layer at the sender designed to communicate with the corresponding layer at the receiver and with minimal knowledge of the other layers.

- The Application Layer contains the protocols and data representations that are used to allow two processes to communicate across a network.
- The Transport Layer contains the protocols to ensure data on a given host reaches the right process, and tools to ensure reliability.
- The Internet Layer contains the protocols to ensure data from a given host is able to reach the correct destination host.
- The Link Layer contains the protocols that manage the transmission of data between hosts in the same local network.
- The Physical Layer represents the hardware and transmission medium that the data travels over.



But this isn't *Internet and Database Computing*

"The World Wide Web (WWW), commonly known as the Web, is an information space where documents and other web resources are identified by Uniform Resource Locators (URLs, such as https://www.example.com/), which may be interlinked by hypertext, and are accessible via the Internet. The resources of the WWW may be accessed by users via a software application called a web browser."
-*Wikipedia*

The Web

Information transferred via Application Layer **H**yper**T**ext **T**ransfer **P**rotocol (HTTP)

This is commonly documents written **H**yper**T**ext **M**arkup **L**anguage (HTML),
but may be different types of content, including Media & Images, Files, Style information, and scripts.

The information is rendered by a Web Browser to generate the Web Pages and content that we see.

Originally mostly static pages

An example of an early webpage

- Information on pages fixed, unchanging.
- Webpages primarily as a way to present information.

Soon evolved into dynamic content

- Information on pages changes depending on user input.
- Webpages provide services.
  - Search engines
  - Online shopping
  - Online banking

An example of a dynamic webpage

Web applications

- Interactive pages change in real time with information that may be unique to each user.
- Webpages provide same functionality as a desktop application.
  - Social Media
  - Webmail
  - Streaming websites
  - In browser games

An example of a web application

What does that look like?

Web applications in your life

By the end of this course you will have built your own web application

What's Happening?

Due:

- Ensure you've completed the tasks in the `Course Information` section of MyUni
- Start Prac 1 (available from 6pm)

Next week:

- We will start using CSS to style our pages

Questions?

Worked Example

Let's practice building a basic Web Page

Questions?

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