



Course Outline (Higher Education)

School:	School of Engineering, Information Technology and Physical Sciences
Course Title:	DYNAMIC WEB DEVELOPMENT
Course ID:	ITECH3108
Credit Points:	15.00
Prerequisite(s):	(ITECH1400 or ITECH2001) (ITECH2003)
Co-requisite(s):	Nil
Exclusion(s):	(ITECH3224)
ASCED:	020103

Description of the Course:

Since its explosion into popularity in the 1990's, the Web has been revolutionizing how we work with and think about IT. This course covers the core web technologies - in particular server-side and client-side programming - that enable the creation of dynamic and interactive web applications.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:**Knowledge:**

- K1.** Identify the technologies, protocols, and systems that enable dynamic web applications.
- K2.** Contrast the capabilities and limitations of client-side and server-side web code.
- K3.** Detect opportunities for increasing security and privacy of web applications.

Skills:

- S1.** Develop client/server web applications using client-side and server-side code.
- S2.** Connect to and manipulate a database management system programmatically using server-side code.
- S3.** Design and implement a web-based Application Programming Interface (API).
- S4.** Implement a client-side web application which uses a client-side programming language to access a web API.

Application of knowledge and skills:

- A1.** Design, develop, test, and debug client/server web applications to provided specifications.

Course Content:

This course examines the languages, protocols and technologies that enable the World Wide Web. Server-side web programming is introduced, which is used to build an online database application. Client-side scripting is given an in-depth treatment, building on earlier web courses. Finally, methods for communicating between the web client and server are studied in detail. Students in the course will extend their existing knowledge of HTML and CSS, TCP/IP networking and IT security.

Topics may include:

- The design and philosophy of the Hypertext Transfer Protocol (HTTP) and its variants.
- Client-side programming using JavaScript.
- Responding to HTTP requests using server-side code.
- Exchanging data between server-side and client-side application code.
- Programmatically connecting to and manipulating a database management system.
- Securely handling authentication and passwords.
- Web API design and implementation.
- Security and privacy considerations for web applications.
- Future directions of web technologies.

Values:

- V1.** Develop problem-solving skills and self reliance.
- V2.** Respect the safety and privacy of the users of web applications, and recognize the responsibility of the developer for users' safety.

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes**

and assessment for each FedUni course, and all attributes must be directly assessed in each program

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, K3	AT1, AT2, AT3
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	S1, S2, S3, S4, A1	AT2, AT3
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K3	AT1, AT2, AT3, AT4
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	Not applicable	Not applicable
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	S1, S2, S3, S4, A1	AT2, AT3

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K2, K3, S1, S2, S3, S4	Complete ten weekly lab exercises.	Demonstration of completion	10%
K2, K3, S1, S4, A1	Create a dynamic client/server web application.	Individual Practical Project	25-35%
K2, K3, S1, S2, S3, S4, A1	Create an online web interface to a database system.	Individual Practical Project	25-35%
K1, K2, K3, A1	Study course material, read and summarize theoretical aspects of the course.	Exam(s) or Test(s)	20-30%

Adopted Reference Style:

APA

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)