COMP 3036 FULL STACK DEVELOPMENT

Credit Points 10

Coordinator Kieran Luken (https://directory.westernsydney.edu.au/search/name/Kieran Luken/)

Description Full Stack Development delivers in-depth knowledge of systems development. Students learn how to develop, test and integrate client (front-end) and server (back-end) parts of the software system. The subject will explore various options for the client-server data communication, using either REST APIs, sockets for live subscriptions or graph-based solutions. The subject focuses also on various testing approaches (i.e. unit, integration and end to end), continuous delivery, containerisation with Docker, integration and deployment procedures. Students use versioning control and engage with the Github platform for project management and quality control; developing authentic, real-world projects. Based on the performance in the subject, a selected number of students will have the opportunity to undergo a week-long placement with a target business partner. Students doing the placement will work on industry projects assessed by professional staff at their placement venue.

School Computer, Data & Math Sciences

Discipline Programming

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Pre-requisite(s) COMP 3028

Learning Outcomes

After successful completion of this Unit, students will be able to:

1. Apply programming skills using Javascript, Typescript, HTML, CSS, JSX, SQL and NoSQL.
2. Develop applications in popular front-end frameworks such as React.
3. Design processes for implementation, maintenance and continuous integrations of full stack software systems.
4. Apply appropriate strategies, technologies and architectures during development of full stack systems.
5. Communicate designs and strategies to a diverse audience following professional practice standards.

Subject Content

• Front and back-end development
o Javascript
o Typescript
o Python
o CSS
o HTML
o JSX

• Full-stack frameworks
o Node.js (React, Vue, Svelte)
o Python (Django)
o Ruby (Rails)

•Containerisation

•Database Management
o SQL
o No-SQL

• API Development
o GraphQL
o REST API
o Subscriptions
o Socket Programming

• Version Control
o Git
o Github

• Quality Assurance
o Continuous Integration (CI)
o Continuous Development (CD)
o Unit Testing
o Integration Testing
o End to End Testing

• Deployment

o Open-Source Development
o Packaging

• Licensing

• Project Management

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Practical	Written submissions & workshop demonstrations delivered progressively through the semester.	30	N	Individual	N
Applied Project	Part A: Implementa of full-stack system Part B: 15 minutes	50	Y	Individual	Y

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory	
End-of-session Exam	1 hour	20	N	Individual	N	View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3036_25-SC3_SC_1#subjects)

Students doing the Placement

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Practical	Written submissions & workshop demonstrations delivered progressively through the semester	30	N	Individual	N
Applied Project	Part A: Implementa of full-stack system Part B: 15 minutes Part C: 1500 Words	50	N	Individual	Y
End-of-session Exam	1 hour	20	N	Individual	N

Teaching Periods

Autumn (2025)
Parramatta - Victoria Rd
On-site
Subject Contact Kieran Luken (https://directory.westernsydney.edu.au/search/name/Kieran Luken/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3036_25-AUT_PS_1#subjects)

Sydney City Campus - Term 2 (2025)
Sydney City
On-site
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3036_25-SC2_SC_1#subjects)

Sydney City Campus - Term 3 (2025)
Sydney City
On-site
Subject Contact Mahsa Razavi (https://directory.westernsydney.edu.au/search/name/Mahsa Razavi/)