INFS 3018 WEB SYSTEMS DEVELOPMENT (ADVANCED)

Credit Points 10

Legacy Code 300902

Coordinator Weisheng Si (https://directory.westernsydney.edu.au/search/name/Weisheng Si/)

Description This subject teaches state-of-the-art web frameworks for developing complex web systems. This subject utilises the skills of basic web programming, database design, and systems analysis that students have learnt in previous subjects. Major topics in this subject include Cascading Style Sheet (CSS) framework, Razor pages, Model-View-Controller (MVC) programming, object to relational database mapping, and authentication and authorization. Moreover, this subject trains students' collaborative skills by asking students to build a complex website in a small team. As an advanced subject, deeper topics such as custom data validation and error handling will be discussed.

School Computer, Data & Math Sciences

Discipline Computer Science, Not Elsewhere Classified.

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 2020

Incompatible Subjects INFS 3017 Web Systems Development

Restrictions Students must be enrolled in programs 3684 Bachelor of Information and Communication Technology (Advanced) or 3688 Bachelor of Information Systems Advanced.

Assumed Knowledge

- Fundamental web development skills such as HTML, CSS, Javascript and PHP.
- Principles of relational database design and development, practical skills in SQL.
- Principles of systems analysis and design including the specification of end-user requirements and a good knowledge of the SDLC and its application to solving computer system related problems.

Learning Outcomes

On successful completion of this subject, students should be able to:
1. Apply CSS framework to lay out and style website
2. Apply LINQ to construct database queries
3. Apply Entity Framework Core to bind objects with database records
4. Implement both client-side and server-side data validation
5. Implement dynamic webpages with Razor syntax
6. Apply MVC framework to develop web systems
7. Implement user authentication and authorization for web systems
8. Apply collaborative skills to work in a team in developing complex web systems
9. Implement custom session states needed by web systems
10. Apply error handling techniques to build robust web systems

Subject Content

1. Cascading Style Sheet (CSS) framework such as Bootstrap
2. Language Integrated Query (LINQ)
3. Object to relational database mapping: Entity Framework Core
4. Client-side and server-side data validation
5. Razor pages programming
6. Model-View-Controller (MVC) programming framework: ASP.NET Core
7. Authentication and authorisation
8. Collaborative web development
9. Session states
10. Error handling

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	50 to 60 hours to complete over a period of 12 weeks	50	N	Individual	N
Applied Project	30 to 40 hours to complete over a period of 13 weeks	25	N	Group	Y
Final Exam	1 hour	25	N	Individual	Y