2024 / 25

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South East Technological University

Module Descriptor

Enterprise Web Development (Computing and Mathematics)

Enterprise Web Development (A13886)

Short Title: Enterprise Web Development
Department: Computing and Mathematics
Credits: 10 **Level:** Postgraduate

Description of Module / Aims

To enhance the student?s existing IT knowledge and experience with the skills-set and knowledge required to design, develop and deploy full-stack enterprise web applications using a range of modern platforms and tools. The module will also address foundation-level material in web architecture, object-oriented programming, design representation and relevant design patterns. In addition, the concepts and vocabulary surrounding the topics covered will enable the student to communicate and participate more effectively as a non-technical member (e.g. business analyst) of a software development team.

Programmes

		stage/semester/status
COMP-0484	MSc in Computer Science (Enterprise Software Systems) (WD_KCESS_R)	1 / 0 / E
COMP-0484	MSc in Computing (Information Systems Processes) (WD_KISYP_R)	1 / 0 / E

Indicative Content

- Internet and Web: HTTP; Client-server architecture; Session management
- Design Patterns: Microservices; Publisher-Subscriber; MVC (Model View Controller); ORM (Object Relational Mapping)
- Web Application frameworks: In-depth case studies
- Web API Design patterns and principles: REST
- Data persistence
- Developer tool suite: Build automation; Test automation; Scaffolding; Version Control

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Develop a medium-sized Single Page Web App using best practice design principles and patterns
2. Develop a web API using best practice design principles.
3. Setup and integrate suitable workflow automation tools for enterprise web development.
4. Choose particular solutions for non-functional requirements, including session management, client-server communication and security, for a user requirement set.
5. Propose and select open-source platforms and tools for the specification, documentation and testing of application components.

Learning and Teaching Methods

- Combination of lectures and computer-based practicals.
- The lectures will cover the theory and supporting technologies behind enterprise web development.
- The lab-based practicals, building on the theoretical knowledge from lectures, provide exposure to the frameworks, tools and practical skills required to develop and build enterprise web apps.
- The practical content will use industry standard technologies, tools and techniques.
- Student will be encouraged to enhance their lab work and assessment submissions using self-directed research and learning into the state-of-the-art for enterprise web app development.

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	24	24
Practical	24	24
Independent Learning	222	222

Assessment Methods

	Weighting	Outcomes Assessed
Continuous Assessment	100%	
Project	60%	1,3,5
Project	40%	2,3,4

Assessment Criteria

<40%: Unable to interpret and apply key concepts of enterprise web app development.

40%–59%: Demonstrate competency in the tool suite and an ability to develop small-scale enterprise web solution.

60%–69%: Presents implemented solution to a medium-sized problem that demonstrate an excellent understanding of the main patterns and practices of enterprise web app design.

70%–100%: All of the above to an excellent standard, and incorporates self-directed investigation into state-of-the-art enterprise web technology.

Supplementary Material(s)

- Richardson, L. and M. Amundsen. *RESTful Web APIs*. O'Reilly Media: O'Reilly Media, 2010.

Requested Resources

- Computer Lab: BYOD Lab