This is an Industrial Project course that consists of two parts: Work-based Learning (WBL) and Industrial Project.

The **WBL part** of the course will deliver work-based blended online learning materials. The aims of this part are, to familiarise students with current techniques and paradigms in web programming, with the purpose to enable them to design and implement robust and scalable web-based applications.

The **Industrial Project** part of the course will require the student to implement an industrial web programming project, embedded in and contextualised for the host company, focusing on the practical techniques learned in the WBL part of the course.

**LEARNING OUTCOMES – SUBJECT MASTERY**

- Broad knowledge and understanding of the history of web programming
- The ability to apply the concepts, patterns and architectures used in web programming to new problems in an industrial context
- Detailed technical skills to use a scripting language for both server-side and client-side programming
- The ability to make informed decisions about appropriate web technologies to use for a particular task in an industrial context
- To be able to plan a significant project
- To understand the time and effort involved in planning of an industrially-based project
- To be able to relate learned knowledge to work-based computing projects
LEARNING OUTCOMES – PERSONAL ABILITIES

- Practice in working on a development project in a small group under the guidance of a tutor
- Practice in defining the subject and scope of a development project (PDP)
- Deconstructing a problem and synthesizing a solution
- Time management
- Awareness of distinctive features of industrial practice
- Can communicate effectively with work colleagues on learned issues
- Can identify, define, and analyse alternative project scenarios
- Take significant responsibility for their work and for a range of resources

SYLLABUS

- History of web development technologies
- Design patterns (such as REST, separation of content and presentation, and abstraction of resources)
- Server side programming using an appropriate scripting language
- General architecture of a web server
- Templating systems
- Client side programming topics, including the Document Object Model
- Security relating to web applications
- Deployment, including coping with scale
- Industrial project identification (evaluation, critical assessment, scheduling, planning, requirements engineering, specification, risk assessment, agile project delivery)

COURSE RELATIONSHIPS

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LOCATION AND ASSESSMENT METHODS

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