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| Module title Building Modern Web Applications & Services using Node.js | | | | |
| Module code DMAS | Level Bachelor (B.Sc.) | Hours per week 4 | ECTS credits 5 | Duration 2 weeks block course + virtual lectures |
| Module instructor Eamonn De Leastar, Waterford Institute of Technology | | Lecture type Lectures + Guided Lab Sessions | Prerequisite(s) Intermediate Programming Ability | Grading Single Programming Assignment |
| Objectives | | | | |
| <p>This course will introduce the principles, practices and tools for the desing, construction and deployment of modern web applications and services using the node.js ecosystem.</p> <p>On completion of the course the students will be able to:</p> <ul style="list-style-type: none"> - <i>Knowledge & Understanding:</i> Understand the structure and patterns required to implement a robust web application & service. In particular, apply these principles to the node.js ecosystem. - <i>Skills & Abilities:</i> Implement, in a test driven manner, a node.js web application and web service using modern (ES6) features, including appropriate persistence (database) layer + a simple Single Page Application (SPA) client layer. - <i>Judgement & Approach.</i> Evaluate the chosen tool set and relate these to other frameworks, libraries & approaches within the Node ecosystem. <p>The course will consist of a series of lectures interspersed with guided laboratories. The laboratories will apply the principles introduced in the lectures via the construction of a small number of interesting applications. These applications will further develop aspects of the material covered in the lectures.</p> <p>Students will be asked to extend one of the applications with a range of features, implementing these features using TDD methods. This will constitute the single assignment for the module.</p> | | | | |
| Content | | | | |
| <ul style="list-style-type: none"> • Modern Javascript (ES6) • Node.js principles and practices • Developing Node.js Web Applications & Services in HAPI.js • Implementing a model using Mongo DB + a suitable mapper (Mongoose) • Validation, sessions & security • Introduction to Front End Development via Single Page Applications frameworks (SPA) • Testing & deployment. | | | | |
| Textbook/teaching material (for reference purposes) | | | | |
| <ul style="list-style-type: none"> • Programming JavaScript Applications, Elliot, O’Rielly, 2013 • Hapi.js in Action, Harrison, Manning, 2015 • Mongoos for Application Development, Holmes, Packt, 2013 • Aurelia for Real World Applications, Charrington, Leanpub, 2016 | | | | |

Note: this is not the official course descriptor according to the “Studien- und Prüfungsordnung” (SPO)