Ollscoil
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South East
Technological
University

# Module Descriptor

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# Web App Development 1 (Computing and Mathematics)

# Web App Development 1
# (A13641)

**Short Title:**   Web App Development 1
**Department:**   Computing and Mathematics
**Credits:**   5        **Level:**     Introductory

## Description of Module / Aims

Introduce the the student to the software development lifecycle via the implementation of a simple but functional web application. In doing this, analyse & model a constrained set of user requirements. Then design, build and deploy a simple web application. Incorporate basic database, session support & server side rendering.

## Programmes

| | | stage/semester/status |
|---|---|---|
| COMP-0597 | BEng (Hons) in Information Engineering (International) (WD_EEELC_BI) | 3 / 6 / M |
| COMP-0597 | BSc (Hons) in Applied Computing (International) (WD_KACCM_BI) | 3 / 5 / M |
| COMP-0597 | BSc (Hons) in Applied Computing (WD_KACCM_B) | 1 / 2 / M |
| COMP-0597 | BSc (Hons) in Applied Computing (WD_KCOMP_B) | 1 / 2 / M |
| COMP-0597 | BSc (Hons) in Computer Forensics and Security (WD_KCOFO_B) | 1 / 2 / M |
| COMP-0597 | BSc (Hons) in Computer Science (WD_KCMSC_B) | 1 / 2 / M |
| COMP-0597 | BSc (Hons) in Creative Computing (WD_KCRCO_B) | 2 / 4 / M |
| COMP-0597 | BSc (Hons) in Software Engineering (WD_KDEVP_BI) | 2 / 4 / M |
| COMP-0597 | BSc (Hons) in Software Systems Development (WD_KDEVP_B) | 2 / 4 / M |
| COMP-0597 | BSc (Hons) in the Internet of Things (International) (WD_KINTT_BI) | 3 / 6 / M |
| COMP-0597 | BSc in Information Technology (WD_KINFT_D) | 2 / 4 / M |
| COMP-0597 | BSc in Multimedia Applications Development (WD_KMULA_D) | 2 / 4 / M |
| COMP-0597 | BSc in Software Systems Development (WD_KCOMC_D) | 2 / 4 / M |

## Indicative Content

- User Stories & Agile context
- Introduction to Modelling
- Hypertext Transfer Protocol (HTTP) Request/Response Life Cycle
- Introductory Web Application Frameworks
- Simple Object Relational Mapping tools
- Test Driven Development

## Learning Outcomes

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

1. Identify the key components of a server rendered web application and incorporate them into a running application.
2. Use Model View Controller & related patterns in the implementation of a web project.
3. Relate the request/response lifecycle, routing & session management in the context of a modern application framework.
4. Convert a set of requirements into a set of discrete stories and translate these stories into a simple project plan with associated timeline and testing strategy.
5. Model the user requirements and realize the model in a simple database.

## Learning and Teaching Methods

- Lectures will introduce the general context of the curriculum, and explore specific topics in depth.
- Supervised, guided and scripted practicals will lead the student through the construction of selection of small applications, designed to illustrate key concepts covered in the lectures.
- Each practical will propose a set of exercises – to be solved in a subsequent practical.
- Assignment One will focus on the enhancement of the guided application.
- Assessment Two will invite the student to analyse, design and implement a basic but functional new application.

## Learning Modes

| Learning Type | F/T Hours | P/T Hours |
|---|---|---|
| Lecture | 24 | |
| Practical | 24 | |
| Independent Learning | 87 | |

## Assessment Methods

| | Weighting | Outcomes Assessed |
|---|---|---|
| Continuous Assessment | 100% | |
| Assignment | 50% | 1,2,3 |
| Assignment | 50% | 3,4,5 |

## Assessment Criteria

*<40%:* Unable to interpret, describe or implement key components of a simple web application.

*40%–49%:* Be able to construct a minimal web application, incorporating server side rendering.

*50%–59%:* Design and implement a web application including basic database and session support.

*60%–69%:* All of the above including a simple model of the application structure.

*70%–100%:* All the above to an excellent level. Incorporate Unit Tests for a specific subset of an application.

## Supplementary Material(s)

- Henderson, M. *Instant CakePHP Starter*. New York: Packt Publishing, 2013.
- Richard-Foy, J. *Play Framework Essentials*. New York: Packt Publishing, 2014.
- Syed, B. *Beginning Node.js*. New York: Apress, 2014.

## Requested Resources

- Computer Lab: BYOD Lab