Chapter 2
Mapping Current Teaching and Learning Practices to Multi-User Virtual Environments

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ABSTRACT

During the course of this chapter, the authors will examine the current methods of pedagogical teaching in higher education and explore the possible mapping into a multi-user virtual environment. The authors consider the process of construction and delivery for a module of student education. They examine the transition of delivery methods from the established, slow changing traditional media, to the modern flexibly of community based, open source driven methods which are the foundation of virtual environments.

INTRODUCTION

Explanation of Terminology

In degree courses at the Higher Education (HE) level, students are typically taught several distinct subjects in parallel. We refer to each of these subjects as a "module". Although modules are sometimes spread across a number of academic terms, more often than not each module would run for a single term. We consider a "course" to be the body of academic work that leads to a degree exit award such as BA, BSc, BEng, MA or MSc.

Teaching in Practical Usage

For the purposes of this explanation we will use a generalized and typical module format. The format has been populated with material from a module concerned with Internet development technologies. This is only to assist understanding of the module descriptor. Such a module is loosely

Figure 1. Generalized and typical module descriptor

Pre-requisites for Module Course entry requirements only. **Co-requisite Modules** None. **Precluded Modules** None.	**Indicative Student Workload** *Contact Hours* Full Time

	Lectures 24
	Laboratories 24
	Tutorials 12
	Assessment 5
	Directed Reading 30
	Private Study 55

Aims of Module 1. To enable the students to explore the key concepts of web systems development. 2. To develop the students' skill in the practical design, development and management of web systems.	**Mode of Delivery** Key concepts are introduced and illustrated through the medium of lectures. Laboratory sessions provide a series of exercises designed to develop proficiency in techniques essential to the development of web systems. Tutorials will address specific technical points which will aid subject knowledge and practical skills.
Learning Outcomes for Module On completion of this module, students are expected to be able to: 1. Design and implement web pages appropriate to a given objective. 2. Demonstrate proficiency with the individual technologies required in the construction of web pages. 3. Develop web based server side applications.	**Assessment Plan** There will be one coursework-based assessment covering all the learning outcomes.
Indicative Module Content Concepts of internet and web development, historical and current . business applications and methods. Construction of web sites, at a site design and page design level. Technologies such as HTML, CSS, client side scripting and server side scripting.	**Keywords** Internet, Intranet, World Wide Web, HTML, CSS, client side scripting, Internet protocols, server side scripting

defined in the descriptor given in Figure 1. This module format has been adapted for delivery to students of varying backgrounds and expectations: undergraduates, direct entry degree year students and master's students. This variety has permitted the module leader/s to take advantage of different delivery and assessment methods based on the audience demographics.

The description in Figure 1 is sufficiently specific that the students know what to expect, without a rigidity which prevents module adaptation to new technologies or greater course requirements.

The module terms shown in Figure 1 are explained in areas of related purpose as follows:

- The first properties show whether a module has any pre- or co-requisites and whether it shares sufficient similar areas to preclude any other modules. However these properties are retrospective, looking to earlier modules, and later advanced modules may rely on the student first successfully completing this one.

- Module aims establish what skills the student should have mastered by completion. Learning outcomes explain how these aims will be summatively assessed, while the assessment plan describes the nature of the examination/s.

- Workload gives the specific contact time and type of contact as well as indicating the assessment burden and the expected non-contact time the student should spend in directed study or in improving their skills/knowledge in the subject area of the materials delivered.

- Keywords cover the subject areas that will be addressed. Indicative content gives the students a broader idea of how the module will be composed, but retains flexibility to allow the module lecturer to maintain relevance and introduce variation.

- Mode of delivery specifies how the knowledge and skills will be delivered during

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