



Chapter XII

Information Technology Model Curricula Analysis

Anthony Scime^{*}

State University of New York at Brockport, USA

INTRODUCTION

Most information technology (IT) bachelor degree recipients get jobs after graduation, rather than attend graduate school (Freeman & Aspray, 1999). They enter the workforce because of the tremendous demand for the IT skilled professionals. This means students (and employers) are looking for a practical rather than a theoretical education to fill the computing careers. Such a practical education necessitates a variety of approaches to work in various computing careers. "The traditional career path of programmer to systems analyst to project manager and eventually to IS manager" no longer holds (Urquhart, Perez, Rhoden & Lamp, 1996). With many career paths there is a need for varying academic tracts to start students in their careers.

INFORMATION TECHNOLOGY AS A PROFESSION

Information technology involves the design, development, implementation, support, and management of software and hardware artifacts (Information Technology Association of America, 1997). An artifact may be a chip, a device, a programming language, or a method to store and retrieve data. The jobs done on these artifacts by IT workers can be classified into four categories: conceptualizers, developers, modifiers, and supporters. There is a loose

correlation between these categories and IT education (Freeman & Aspray, 1999). It is the job of academia to produce workers in all four of these categories.

Conceptualizers are workers involved with the conception of the basic nature of a computer system artifact. They investigate new ways of processing, storing, transmitting, and representing information. These workers have job titles such as research engineer, systems analyst, computer science researcher, requirements analyst, or system architect.

Developers are people who specify, design, construct, and test an IT artifact. They apply existing technology to new problems. Commonly their job titles are systems designer, programmer, software engineer, computer engineer, chip designer, or tester.

IT workers who modify or extend an information technology artifact work with existing hardware or software. Modifiers maintain systems by making improvements to increase the efficiency of information processing, storage, or communication. They may have job titles such as maintenance programmer, programmer, software engineer, computer engineer, and database administrator.

Finally are those who support or tend the existing systems by delivering, installing, operating, maintaining, or repairing of the information artifacts. Supporters work at the interface between the computer system and the end-user. These are the customer support specialists, help desk specialists, hardware maintenance specialists, network installers, and network administrators.

FORMATION OF INFORMATION TECHNOLOGY AS A DISCIPLINE

Professional fields, such as information technology, are derived from one or more of the traditional disciplines or from other professional fields. The professional fields are the applied application of the knowledge developed in the theoretical disciplines. The professional fields also have an association with the working profession. The working professionals provide guidance concerning the particular knowledge necessary to be successful in the profession. This in turn influences the profession's academic programs.

IT's origins and reference disciplines are management, mathematics, and engineering (Denning, 1998; Freeman & Aspray, 1999; Myers & Beise, 1999; Watson, Taylor, Higgins Kadlec & Meeks, 1999). At any given school, the IT discipline originated from one of these reference disciplines. Regardless of origin the goal of all IT is to process information to be useful.

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/information-technology-model-curricula-analysis/6538

Related Content

The Academic Views from Moscow Universities on the Future of DEE at Russia and Ukraine

Vardan Mkrttchian, Bronyus Aysmontas, Md Akther Uddin, Alexander Andreevand Natalia Vorovchenko (2015). *Identification, Evaluation, and Perceptions of Distance Education Experts* (pp. 32-45).

www.irma-international.org/chapter/the-academic-views-from-moscow-universities-on-the-future-of-dee-at-russia-and-ukraine/125403

Mobile e-Learning for Next Generation Communication Environment

Tin-Yu Wuand Han-Chieh Chao (2008). *International Journal of Distance Education Technologies* (pp. 1-13).

www.irma-international.org/article/mobile-learning-next-generation-communication/1732

IT to Facilitate Distance Education

M. Gordon Hunterand Peter Carr (2009). *Encyclopedia of Distance Learning, Second Edition* (pp. 1291-1296).

www.irma-international.org/chapter/facilitate-distance-education/11912

Developing a Positive Culture in the Online Classroom

Kristen Carlson (2022). *Pedagogy, Presence, and Motivation in Online Education* (pp. 55-72).

www.irma-international.org/chapter/developing-a-positive-culture-in-the-online-classroom/301286

Influencing Factors for Adopting Technology Enhanced Learning in the Medical Schools of Punjab, Pakistan

Shazia Iqbal, Shahzad Ahmadand Ian Willis (2017). *International Journal of Information and Communication Technology Education* (pp. 27-39).

www.irma-international.org/article/influencing-factors-for-adopting-technology-enhanced-learning-in-the-medical-schools-of-punjab-pakistan/181712