Contents

Part I

Special Issue: Methods and Cases in Computing Education

Guest Editors

Juan Manuel Dodero—University of Cádiz, Computer Science Miguel Ángel Sicilia—University of Alcalá, Computer Science Julià Minguillón—Open University of Catalonia, Computer Science

Ahmad Ibrahim	1	Editorial
Juan Manuel Dodero, Miguel Ángel Sicilia and Julià Minguillón	2	Guest Editorial
César Cárdenas	3–13	A Multidisciplinary Approach to Teach the Design of Socially Relevant Computing Systems for Social Change
Camino Fernández, David Díez, Telmo Zarraonandía and Jorge Torres	14–23	A Student-Centered Introductory Programming Course: The Cost of Applying Bologna Principles to Computer Engineering Education
Elena García-Barriocanal, Salvador Sánchez-Alonso and Daniel Rodriguez-García	24–30	Devising Instruction from Empirical Findings on Student Errors: A Case in Usability Engineering Education
Francisco J. García, Sergio Bravo, Miguel A. Conde and Héctor Barbosa	31-40	SET, A CASE Tool to Guide the Creation of Domain and Use Case Models in an Introductory Software Engineering Course
Zoran Jeremic, Jelena Jovanovic and Dragan Gasevic	41–51	An Environment for Project-Based Collaborative Learning of Software Design Patterns
Mariano Rico, Gonzalo Martínez-Muñoz, Xavier Alaman, David Camacho and Estrella Pulido	52–60	A Programming Experience of High School Students in a Virtual World Platform
Joesp Soler Imma Boada Ferran Prados, Jordi Poch and Ramon Fabregat	61–69	A Web-Based E-Learning Tool for Database Design Courses
Yan-Qing Wang, Zhong-Ying Qi, Li-Jie Zhang and Min-Jing Song	70–76	Research and Practice on Education of SQA at Source Code Level

Part II

Contributions in: Engineering Education Research, Information Management, Teaching Engineering Design, Learning Models, Problem-based Learning, Distance Learning, Instructional Development, Control Systems, and Power Electronics

B. K. Jesiek, M. Borrego, K. Beddoes, M. Hurtado, P. Rajendran and D. Sangam	77–90	Mapping Global Trends in Engineering Education Research, 2005–2008
Ming-Hua Chang and Chi Cheng Chang	91-100	Developmental Model of Strategic Alliance for Technological Education
R. F. Hamade and N. Ghaddar	101–113	Impact of Team Functions in an Introductory Design Course on Student Performance in Later Design Courses: A Longitudinal Study
David C. Shallcross, Gavin Buskes and Raymond R. Dagastine	114–127	Teaching First Year Engineering Design and Design Criteria—The Thames Barrier
Chris Poyner, Mary Court, Huong Pham and Jennifer Pittman	128–137	A 3-D Pyramid/Prism Taxonomy for Viewing Knowledge When Teaching Language-Focused, Undergraduate Simulation Courses
L. Pérez Urrestarazu, A. Franco Salas and R. Fernández Cañero	138–145	Multidisciplinary Education for New Landscape Engineering Concepts using Problem-Based Collaborative Learning. A Case Study in Spain
Julio Ariel Romero	146–154	Problem-Based Learning in an Industrial Computers Course
Suzana Markovic, Nenad Jovanovic and Ranko Popovic	155–166	Web-Based Distance Learning System with Adaptive Testing Module
Ning Fang	167–177	A New Methodology for Assisting the Development of Instructional Awareness in Teaching a Large Engineering Class with Academically Diverse Students
M. L. Pertegal-Felices, A. Jimeno-Morenilla and J. L. Sanchez-Romero	178–186	Use of Discussion Boards as a Student-Centered Methodology for Large Groups in Higher Education
Liliana Fernández-Samacá and José Miguel Ramírez	187–199	Learning Control Concepts in a Fun Way
A. Ndtoungou, AB. Hamadi and K. Al-Haddad	200–213	An Improved Approach to Better Understand Power Electronics Variables
	214	Guide for Authors