

# Chapter 4

## Reengineering an Introductory Computer Education Course for Undergraduate Students

**Farhat (Meena) J. Lakhavani**  
*Carnegie Mellon University, USA*

**April Rupp**  
*Carnegie Mellon University, USA*

### EXECUTIVE SUMMARY

*Computing@Carnegie Mellon (C@CM), a required 3-unit course for all incoming Carnegie Mellon undergraduate students, went through total reengineering during 2010. The content, the delivery method, and the support model for this course were all changed simultaneously. The objective of this case study is to share experiences in reengineering this introductory computer education course, including experiences with reengineering the content, the delivery method, and the support model in a rapid rollout mode. Specifically, this case study will discuss lessons learned and speculate on the next step for future academic years based on the successes and challenges in teaching this reengineered course to 1,683 students during the 2010-2011 academic year.*

DOI: 10.4018/978-1-4666-2214-2.ch004

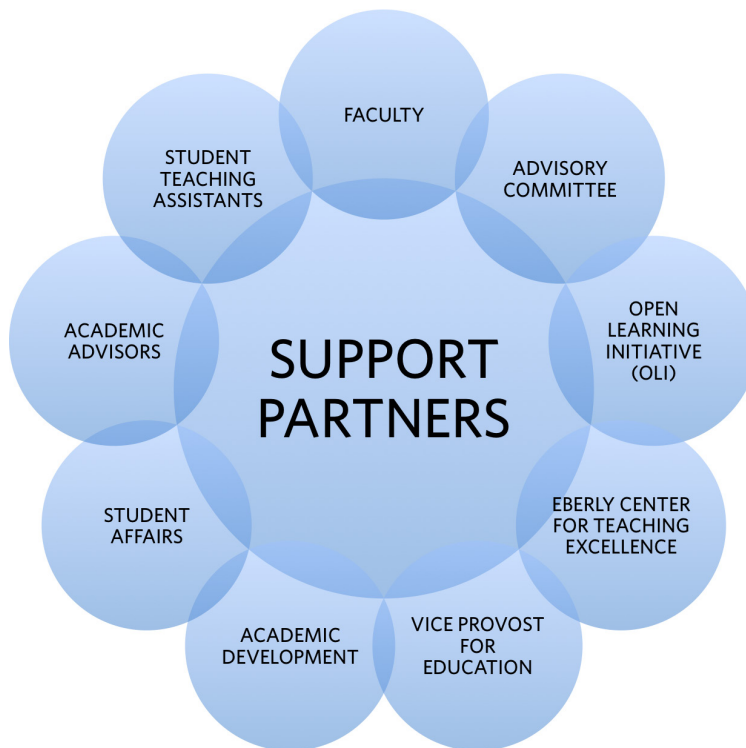
Copyright ©2013, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

## ORGANIZATION BACKGROUND

Carnegie Mellon has been teaching all undergraduate students essential computing skills for more than 22 years. Along with the content, the name of the course evolved from “Computing Skill Workshop” to Computing@Carnegie Mellon (C@CM). C@CM is a required 3-unit course for all incoming undergraduate students. C@CM teaches essential skills for making efficient, responsible, and safe use of electronic resources and effectively finding and evaluating information at CMU. Previously, trained undergraduate student instructors delivered C@CM in the computer labs on both Window and Macintosh computers. Over the last year, C@CM has transitioned to a hybrid course utilizing the Open Learning Initiative (OLI) online environment along with recitation sessions in the computer labs. This course is developed and supported in collaboration with our campus partners across campus (see Figure 1).

Students take this course from all colleges and disciplines, including the School of Computer Science, the College of Fine Arts, the Tepper School of Business, the Dietrich College of Humanities and Social Sciences, and the Mellon College of Sciences.

*Figure 1. Support partners*



14 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/reengineering-introductory-computer-education-course/70335](http://www.igi-global.com/chapter/reengineering-introductory-computer-education-course/70335)

## Related Content

---

### Metaheuristics in Data Mining

Miguel García Torres (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 1200-1206).

[www.irma-international.org/chapter/metaheuristics-data-mining/10975](http://www.irma-international.org/chapter/metaheuristics-data-mining/10975)

### #TextMeetsTech: Navigating Meaning and Identity Through Transliteracy Practice

Katie Schrodtt, Erin R. FitzPatrick, Kim Reddig, Emily Paine Smith and Jennifer Grow (2020). *Participatory Literacy Practices for P-12 Classrooms in the Digital Age* (pp. 233-251).

[www.irma-international.org/chapter/textmeetstech/237424](http://www.irma-international.org/chapter/textmeetstech/237424)

### Sequential Pattern Mining

Florent Maseglier, Maguelonne Teisseire and Pascal Poncelet (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 1800-1805).

[www.irma-international.org/chapter/sequential-pattern-mining/11062](http://www.irma-international.org/chapter/sequential-pattern-mining/11062)

### Matrix Decomposition Techniques for Data Privacy

Jun Zhang, Jie Wang and Shuting Xu (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 1188-1193).

[www.irma-international.org/chapter/matrix-decomposition-techniques-data-privacy/10973](http://www.irma-international.org/chapter/matrix-decomposition-techniques-data-privacy/10973)

### Classification of Graph Structures

Andrzej Dominik (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 202-207).

[www.irma-international.org/chapter/classification-graph-structures/10821](http://www.irma-international.org/chapter/classification-graph-structures/10821)