

Curricular Resources from the ACM Two-Year College Education Committee

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ABSTRACT

This poster presentation showcases curricular resources available from the Two-Year College Education Committee (TYCEC), a standing committee of the ACM Education Board since 1991. The primary charge of the Committee is to provide curriculum recommendations in all areas of computing for institutions that grant associate degrees. To this end, the TYCEC has published curriculum guidelines in each of the computing sub-disciplines: Information Technology, Computer Science, Information Systems, Computer Engineering and Software Engineering. With financial assistance from ACM and the National Science Foundation, the Committee has also conducted several workshops that targeted specific groups of two-year college faculty.

Categories and Subject Descriptors

K.3.2 [Computers and Education] Computer and Information Science Education – Curriculum.

General Terms

Standardization.

Keywords

Curriculum Guidelines.

INTRODUCTION

Computing programs in associate-degree granting institutions are typically designed with one of two goals in mind for graduates: transfer into the upper division of a baccalaureate program (a “transfer” program) or immediate entry into the workforce (a “career” program). Associate degrees are a natural completion point after the first two years of a four-year college program of study.

While the concepts of *associate degrees*, *matriculation into the upper division programs*, and *transfer-versus-career education* are prominent in the United States and Canada, similar considerations can be found in a variety of settings across many different countries, including sections of Europe, Australia, New Zealand, and Turkey. The TYCEC guidelines are written to be of service to a variety of curriculum models worldwide.

The ACM TYCEC is in the process of substantially revising career curriculum guidelines in Information Technology. These revised guidelines suggest new horizons in Information Technology career programs beyond the typical web development, desktop support, and networking programs currently offered by most two-year colleges. These forthcoming recommendations will update the *Guidelines for Associate-Degree Programs to Support Computing in a Networked Environment* that were published in 2000 and provided guidance to colleges crafting associate-degree programs in Information Technology. Copies of these guidelines were mailed to all two-year colleges in the US and Canada.

In subsequent years, the TYCEC has produced the following curriculum guidelines that have been approved by the ACM Education Board: Transfer Computer Engineering (2007), Transfer Software Engineering (2005), Information Systems (2004), and Computer Science (2003). Updated transfer Computer Science guidelines are in the final stage of revision. The *Guidelines for Associate-Degree Transfer Curriculum in Computer Science* were revised in parallel with the five-year Interim Review of the baccalaureate-level Computer Science Volume. ACM approval and publication in 2008 is anticipated.

The *Guidelines for Associate-Degree Transfer Curriculum in Computer Engineering* detail a program of study designed for students intending to transfer into baccalaureate programs awarding computer engineering degrees. The *Guidelines for Associate-Degree Transfer Curriculum in Software Engineering* specify a curriculum track within the computer science degree

program at associate-degree granting institutions. The *Guidelines for Associate-Degree Programs in Information Systems* detail a framework for the development, support, and revision of associate-degree programs in the business-oriented Information Systems curriculum. All TYCEC transfer guidelines facilitate inter-institution matriculation into the upper division of baccalaureate degree programs.

An overview of the computing sub-disciplines and their associated curriculum guidelines are freely available online at the Committee's website: www.acmtyc.org. Additionally, the TYCEC has established a *Community of Practice Wiki* -- <http://wiki.acmtyc.org/> -- to receive input and constructive feedback to their curriculum development processes.