
Community College Corner

Associate-Degree Transfer Curriculum in Computer Engineering

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Computer Engineering (CE) curricula guidelines for undergraduate baccalaureate-degree programs were finalized and approved in 2004, published under the title *Curriculum Guidelines for Undergraduate Degree Programs in Computer Engineering*. That work was the result of a joint task force of the ACM and IEEE-CS. The baccalaureate report, together with accompanying materials, appear at <http://www.computer.org/education/>.

While that report spoke to a broad collection of undergraduate programs and curriculum options across the spectrum of computer engineering, the ACM Two-Year College Education Committee undertook an initiative to formulate guidelines for computer engineering preparation targeted specifically to associate-degree granting institutions. The result of that work, a draft report titled *Computing Curricula 2006: Guidelines for Associate-Degree Transfer Curriculum in Computer Engineering*, shares common goals and outcomes with the above-mentioned undergraduate computer engineering curriculum report. All those with an interest in computer engineering education are strongly encouraged to review this draft report, located at <http://www.computer.org/education/>, and to provide comments.

The associate-degree computer engineering report shares common goals and outcomes with the Computer Science curricular guidelines for associate-degree granting institutions that were finalized and approved in 2003 and published under the title *Computing Curricula 2003: Guidelines for Associate-Degree Curricula in Computer Science*. That report, together with accompanying materials, can be found at <http://www.acmtyc.org/>. By basing the new draft CE report on two recently published sets of curricula guidelines, the following goals are fulfilled:

- The incorporation of the computer engineering philosophy, concepts, coursework, and outcomes from the baccalaureate *Curriculum Guidelines for Undergraduate Degree Programs in Computer Engineering* report helps to properly prepare students and facilitates seamless articulation. For those familiar

with the baccalaureate-degree guidelines, the goal is to prepare students for transfer into any of Curriculum Implementations A, B or C, depending on specific course selections.

- The use of computer science and mathematics courses from the *Computing Curricula 2003: Guidelines for Associate-Degree Curricula in Computer Science* report enables two-year colleges in the United States to implement a computer engineering degree program using an established core of computer science, mathematics and science courses.

The draft associate-degree computer engineering report proposes a model for the sequencing of the courses constituting the transfer degree program in Computer Engineering, based on an assumption that students enter with sufficient mathematics background to engage the study of the calculus. The proposed template incorporates the appropriate prerequisite considerations and reflects the important role that various other disciplines play in supporting a robust curriculum in computer engineering. The Engineering courses are intended to be selected from Introduction to Engineering, Digital Electronics, Computer Organization and Architecture and Circuit Analysis, as these courses are specifically intended to support transfer into the upper division of baccalaureate programs in Computer Engineering.

Interested parties are encouraged to examine the draft report *Computing Curricula 2006: Guidelines for Associate-Degree Transfer Curriculum in Computer Engineering* (<http://www.acmtyc.org/>) and to respond to the following:

- (1) What are the strongest and weakest points of this report?
- (2) What is your assessment of the transferability of the proposed curriculum?
- (3) What are your reactions to the specific science, mathematics, and engineering courses called for in this report?

I look forward to your insightful observations.

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