

New Tendencies and Recommendations for Computer Science Curriculum

Manana Khachidze,

Koba Gelashvili

E-mail: manana.khacidze@tsu.ge

koba.gelashvili@tsu.ge

*Department of Computer Science, Ivane Javakhishvili Tbilisi State University
3, I.Chavchavadze ave. 0179, 2nd Building*

Continuing a process that began over 40 years ago with the publication of Curriculum, the major professional societies in computing—ACM and IEEE-Computer Society—have sponsored efforts to establish international curricular guidelines for undergraduate programs in computing on roughly a 10-year cycle. As the field of computing has grown and diversified, so too have the curricular recommendations, and there are now curricular volumes for Computer Engineering, Information Systems, Information Technology, and Software Engineering in addition to Computer Science.

ACD from 2013 redefines the knowledge units in CS, rethinking the essentials necessary for a Computer Science curriculum. The development of curricula for Computer Science is particularly challenging given the rapid evolution and expansion of the field: material dates fast. Moreover, the growing diversity of topics in Computer Science and the increasing integration of computing with other disciplines create additional challenges. Balancing topical growth with the need to keep recommendations realistic and implementable in the context of undergraduate education is particularly difficult. As a result, it is important to engage the broader computer science education community in a dialog to better understand new opportunities, local needs, and to identify successful models of computing curriculum – whether established or novel.