

ANNUAL REPORT
of the
ACM COMMITTEE for COMPUTING EDUCATION in COMMUNITY COLLEGES
for the period FY14: July 1, 2013 - June 30, 2014
www.acmccecc.org = www.capspace.org

Dr. Elizabeth K. Hawthorne, CCECC Chair, provides the following report on the activities of the ACM Committee for Computing Education in Community Colleges (CCECC). Annual reports of the CCECC are available online from www.capspace.org/committee/annualreports.aspx.

PURPOSE:

The Committee charter and purpose: The *ACM Committee for Computing Education in Community Colleges* is the standing committee of the ACM Education Board concerned with computing education at associate-degree granting colleges and similar post-secondary institutions throughout the world. The *Committee* advises the Education Board as directed on all issues concerning curriculum, pedagogy and assessment, and engages in advocacy and policy for this sector of higher education.

CCECC MEMBERSHIP: www.capspace.org/committee/membership.aspx

Members

- Elizabeth K. Hawthorne, PhD, CCECC Chair; Senior Professor, Union County College
- Robert D. Campbell, CCECC Vice-Chair; VP for IT, CUNY Graduate Center
- Cara Tang, PhD, CCECC member; Instructor, Portland Community College
- Cindy Tucker, CCECC member; Associate Professor, Bluegrass Community and Technical College
- Jim Nichols, CCECC member; Division Chair, Estrella Mountain Community College

Associate Members

- Becky Grasser, Department Chair, Lakeland Community College, OH
- Melanie Williamson, Program Coordinator, Bluegrass Community and Technical College
- Markus Geissler, Professor, Cosumnes River College, Sacramento, CA

Emeriti Members

- Dr. Karl Klee
- Dr. John Impagliazzo
- Dr. Joyce Currie Little
- Dr. Dick Austing

The CCECC achieved the following milestones in FY14 (July 1, 2013 – June 30, 2014):

- Continued phase 2 of the associate-degree Information Technology (IT) project in accordance with phase 1 findings and phase 2 funding:

- Created a process in CAP Space to correlate existing courses to core IT learning outcomes. To date, CAP Space is hosting a half a dozen course correlations and is growing.
 - Created process in CAP Space to map core IT learning outcomes to other IT models and ontologies: 1) U.S. Department of Labor Competency Model, 2) European E-Competence Framework, 3) ACM 2012 Computing Classification, 4) CSTA 2011 CS Standards, 5) ABET Program Criteria for Information Technology, and 6) ACM IT 2008 Baccalaureate IT Guidelines Knowledge Units.
 - Sought and established growing list of industry, government and academic curriculum champions for core IT learning outcomes, such as Google, IBM, Microsoft, Intel, NSF ATE Centers of BATEC, CSSIA, CyberWatch, as well as Maricopa Community College District, Bluegrass Community and Technical College, Portland Community College and Union County College
 - Wrote several *ACM Inroads* featured columns about core IT learning outcomes
 - *Associate-Degree IT2014: A Call for Course Examples and Curriculum Champions*, June 2014 - www.capspace.org/committee/CommitteeFileUploads/p37-hawthorne20140622T232552.pdf
 - *Curricular Guidance for IT Associate-Degree Programs*, December 2013 - www.capspace.org/committee/CommitteeFileUploads/p26-hawthorneDec2013.pdf
 - *Associate-Degree Curricular Guidance for Information Technology*, March 2012 - www.capspace.org/committee/CommitteeFileUploads/p28-hawthorneMarch2012.pdf
 - Engaged computing community with interactive presentation at MPICT (January) – YouTube video available - www.youtube.com/watch?v=rWJAR76I99Q
 - Engaged computing community with interactive presentation at TriWiC 2014 (February)
 - Engaged computing community with interactive poster and BoF presentations at SIGCSE 2014 (March)
 - Engaged international computing community with interactive poster presentation at ITiCSE 2014 (June)
 - Acted on feedback given at presentations and from second (“Ironman”) public draft
 - Produced “ACM Associate-Degree Curricular Guidance for Information Technology: A Competency Model of Core Learning Outcomes and Assessment” for review and feedback from the ACM Education Board
 - Currently acting on Education Board feedback
- Ongoing development and maintenance of CAP Space, an online repository of curricula, assessment and pedagogy resources for computing education – www.capspace.org.

- Maintenance of Affiliate database contacts with 6,252 confirmed (via email addresses) of computing educators in two-year college institutions
- Added LinkedIn to CCECC's Facebook and Twitter social media presence and integrated with CAP Space
- Created a process in CAP Space to correlate existing courses to core IT learning outcomes - www.capspace.org/correlation/
- Created process in CAP Space to map core IT learning outcomes to other IT models and ontologies— www.capspace.org/mappings/ITcore/
- Concluded serving on the CS2013 steering committee (December 2013)
- Continuation of our representation on and collaboration with the ACM Education Policy Committee
 - ACM publication “Rebooting the Pathway to Success: Preparing Students for Computing Workforce Needs in the United States” – <http://pathways.acm.org/>
- Continuation of our representation on and collaboration with the ACM-W council – <http://women.acm.org/>
 - Provided community college contact information in support several regional Women in Computing celebrations
 - Attended annual meeting in May 2014
 - Booth sharing at SIGCSE 2014
- Continued collaboration with CSTA – <http://csta.acm.org/>
 - Mapped core IT Learning Outcomes to CSTA 2011 CS Standards – collaborated to create a crosswalk document
 - Booth sharing at SIGCSE 2014
- Hawthorne, Tang and Tucker continued serving as *Security Ambassadors* under NSF award #1241738 through the Federal Cyber Corps, Scholarship for Service (SFS) program - “Security Injections: Promoting Responsible Coding and Building a Community of Security Ambassadors.”
- Drs. Hawthorne and Tang participated in NSF Cybersecurity Education workshop to create a new solicitation/dear colleague letter under the EAGERS program - www.nsf.gov/pubs/2014/nsf14075/nsf14075.jsp (February 2014, Arlington, VA). Hawthorne served on steering committee to plan workshop and write workshop report. The *Cybersecurity Education Workshop* report is available online at <http://research.gwu.edu/cybersecurity> under “Recent Publications” and at www.cyberwatchcenter.org
- Engaged in a variety of advocacy and outreach efforts on behalf of computing education in the community college sector including Grace Hopper conference 2013 (October), CS Education Week & Code.org's Hour of Code 2013 (December), MPICT Winter Conference 2014 (January), TriWiC 2014 (February), SIGCSE 2014 (March), ITiCSE 2014 (June), and the first ever Women in Cybersecurity Celebration 2014 (April) – www.wicys.net
- Continued communication with colleagues via the featured, quarterly column in the ACM Inroads, Community College Corner – columns available at www.capspace.org/publications/

- Ongoing dissemination and outreach activities, including periodic mailings and email messages to contacts in the CCECC Affiliate database, website enhancements, articles, conference sessions and exchanges with colleagues
- Continued support for the ACM Education Council and Education Board goals and objectives

The CCECC plans to pursue the following activities in FY15 (July 1, 2014 – June 30, 2015):

- Conclude phase 2 of the associate-degree Information Technology (IT) project in accordance with phase 1 findings and phase 2 funding:
 - Drs. Hawthorne and Tang to present final IT curriculum to ACM Education Council at September 2014 meeting
 - Disseminate final IT curriculum via CAP Space, conferences, articles and the ACM DL
- Begin associate-degree curricular guidelines for Computer Science
 - Based on CS2013 guidelines: www.cs2013.org
- Investigate developing associate-degree curricular guidelines for Cybersecurity
- Ongoing development and maintenance of CAP Space website and resources in service to the computing education community
 - A restructuring of CAP Space will be required
- Continued maintenance and growth of Affiliate database contacts
- Retirement of CCECC members (associate and full)
- Appointment of additional CCECC members (associate and full) depending upon needed expertise
- Continue our representation on and collaboration with the ACM Education Policy Committee (once reconstituted)
- Continue collaborating with and serving on ACM-W Council
- Continue collaborating with CSTA
- Continue online survey of computing programs at community colleges across the U.S.
- Continue serving as *Security Ambassadors* under NSF award #1241738 through the Federal Cyber Corps, Scholarship for Service (SFS) program - “Security Injections: Promoting Responsible Coding and Building a Community of Security Ambassadors.”
- Continue a variety of advocacy and outreach efforts on behalf of computing education in the community college sector, such as various conferences, articles, meetings, and workshops
- Continue communication with colleagues via a featured, quarterly column in ACM Inroads, *Community College Corner* – columns available through CAP Space at www.capspace.org/publications/
- Ongoing dissemination and outreach activities, including periodic mailings and email messages to contacts in the CCECC Affiliate database, website enhancements, articles, conference sessions and exchanges with colleagues
- Continue support for the ACM Education Council and Education Board goals and objectives