Updating Curricular Guidelines for Associate-Degree Computer Science Programs

ACM CCECC: Elizabeth Hawthorne, Cara Tang, Cindy Tucker
CS-Cyber Task Force Team Leaders: Teresa Moore, Lambros Piskopos, Christian Servin
Agenda

Introductions
   ACM CCECC
   CS-Cyber Task Force
   Work so far

Activity in Groups
   Which CS2013 KUs are appropriate for Associate-Degree programs?
   What’s missing?
   What cyber content should be included?

Summary & Wrap-Up
ACM CCECC & CS-Cyber Task Force

Committee for Computing Education in Community Colleges
Celebrating 40++ years of service to computing education

CS-Cyber Task Force
Formed November 2015
3 Teams

Teresa Moore, Lead
Colleen Case
Becky Grasser
Amardeep Kahlon
Khallai Taylor
Carole Tharnish

Lambros Piskopos, Lead
Michael Bauer
Bryce Barrie
Nancy Jones
Shamsi Moussavi
Robert Surton

Christian Servin, Lead
Larry Forman
Charles Hardnett
James Kolasa
Pam Schmelz
Background

2009: Guidelines for Associate-Degree Transfer Curriculum in Computer Science

2013: Curriculum Guidelines for Undergraduate Degree Programs in Computer Science – CS 2013
   New knowledge area: Information Assurance and Security (IAS)

2015: BoF @ SIGCSE: Perspectives on How CS 2013 Influences Two-Year College Programs
   Standing room only!

2015: Joint task force on Cybersecurity Education formed – ACM, IEEE-CS, AIS-SEC, CEP

2015: NSF C5 Project – Catalyzing Computing and Cybersecurity in Community Colleges

2016: Computer Science for All – U.S. Government initiative
   (www.whitehouse.gov/blog/2016/01/30/computer-science-all)
CS-Cyber Work

Divide CS 2013 knowledges areas (KAs) into 3 groups, form 3 teams
First pass at each knowledge unit (KU): Appropriate for associate-degree level?
   Yes, No, or Partial/Maybe
First draft of learning outcomes for each KU
   Sources: CS 2013, CEP, NICE, NSA CAE2Y, IT 2017 v0.51, Bloom’s Taxonomy

This session will focus on which KUs are appropriate for associate-degree level
Tomorrow’s affiliated workshop will focus on learning outcomes and assessment
# CS 2013 Knowledge Areas

<table>
<thead>
<tr>
<th>Team 1, Teresa</th>
<th>Team 2, Lambros</th>
<th>Team 3, Christian</th>
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</thead>
<tbody>
<tr>
<td>Computational Science</td>
<td>Information Assurance and Security</td>
<td>Algorithms and Complexity</td>
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<tr>
<td>Graphics and Visualization</td>
<td>Networking and Communication</td>
<td>Discrete Structures</td>
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<tr>
<td>Human Computer Interaction</td>
<td>Architecture and Organization</td>
<td>Programming Languages</td>
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<tr>
<td>Information Management</td>
<td>Operating Systems</td>
<td>Software Development Fundamentals</td>
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<td>Social Issues and Professional Practice</td>
<td>System Fundamentals</td>
<td>Software Engineering</td>
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</tbody>
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**Not included by choice**

- Intelligent Systems
- Platform-based Development
- Parallel and Distributed Computing
Activity

Form groups based on KA clusters
Survey – take individually: [www.surveymonkey.com/r/CS-Cyber](http://www.surveymonkey.com/r/CS-Cyber)
Discuss which KUs are appropriate for associate-degree level
Discuss missing content
Consider influence of cybersecurity
Survey – take as group: [www.surveymonkey.com/r/CS-Cyber](http://www.surveymonkey.com/r/CS-Cyber)
Group report out
Discussion summary
Stay Involved with CS-Cyber

Become a reviewer
   Give us a business card with “CS-Cyber Reviewer” written on the back
   OR
Send a text to 37607:
   In the body include 355902 and your name and email
   (www.polleverywhere.com/free_text_polls/98KzHGuuWB85ie4)

Visit our booth or attend another ACM CCECC event at SIGCSE

Follow us on Twitter throughout the conference @ACMccecc
Other ACM CCECC Events at SIGCSE

Booth in Exhibit area: #114
Enter our raffle to win cool tech prizes

Community College Reception sponsored by Intel Education
7pm tonight, Nashville room
Scrumptious desserts
Network with colleagues
Gadget giveaways!

Affiliated Event: Community College Curriculum Development Workshop: Computer Science and Cybersecurity
Saturday, 3pm–6pm, L1 room, RSVP to acm.ccecc@ccecc.acm.org