AGENDA

4:00 – 4:30  Check-In and Food

Check-in / Program pick-up
Informal discussion
Dinner

4:30 – 4:45  Welcome and Introduction

Host – Jeff Salvage, Drexel University

4:45 – 5:45  Presentations

ACM, SIGCSE, and CS Curriculum - Dan Joyce, Villanova University

What CSTA is doing for K-12 CS teachers - Debbie Carter, Lancaster Country Day School

Computer Science Certification Issues – Andrew Ruether, Harriton High School

5:45 – 6:00  Break

6:00 – 6:20  Small Group Discussions

6:20 –  Wrap-Up

Discussion Summaries

What’s next?

Spring/Summer meeting?
AP Computer Science Workshop Notice
Summer 2006
Villanova University

Villanova will be offering a course or workshop this summer for AP CS teachers (new or experienced). Our goal is to create the course/workshop in such away that we can share teaching techniques, strategies for topics, "cool" labs, and AP specific resources that benefit teachers who are already experienced with Java. If there are teachers that still need content knowledge (particularly when it comes to AB topics) then we could gear part of the workshop/course in that direction.

This will be an opportunity for teachers this summer to get together, share/learn Computer Science, and get 3 college credits. Last year it was a 1-day a week for 9 weeks course. This summer it may be that again or a 1 week workshop. Exactly what the course/workshop looks like is still open to feedback. It's Villanova's goal make sure AP CS teachers have the tools/knowledge to do it effectively.

Contact Brian Ellis for more information or feedback:

Brian Ellis
K-12 Mathematics Consultant
Manheim Township High School
Lancaster, PA 17601
(717) 560-3097 x3324
brian_ellis@mtwp.net
Computer Science Educators' Meeting at Lehigh University

Lehigh University has agreed to host a Computer Science Educators' meeting for teachers in our area. It will be held in April (date still to be determined). Our tentative agenda includes:

1. Robotics and the Martian Landscape curriculum at Harrison-Morton Middle School in Allentown
2. The Academy of Information Technology at Dieruff High School, Allentown
3. American Computer Science League at Emmaus High School
4. Fun Student Activities: A LAN Party at Easton Area High School
5. A "Design-First" Curriculum for teaching Java - Lehigh University
6. Lehigh's current NSF-funded STEM (Science, Technology, Engineering and Math) partnership with public schools and future grant proposals

A session for open discussion is also planned.

Please pass on my name and email address (sgh2@lehigh.edu) to anyone who is interested in attending.

Thank you,
Sally Moritz
STEM Teaching Fellow, Lehigh University

__________________________________________________________

Do we want to become a Computer Science Teachers Association (CSTA) Local Chapter?

If so, we need to develop suggestions about what kind of support CSTA could provide for our chapter.

Some ideas from CSTA:
- Provide access to CSTA membership list
- Provide copies of CSTA materials (brochures, publications like the Model Curriculum, CS Rocks, etc.)
- Publicize our meetings in the CSTA Voice
- Posting the occasional chapter report on the CSTA blog

What else?
Topics discussed during and after the presentations at the Winter 2006 Philadelphia Area Computer Science Educators Meeting:

A suggestion was made to address the lack of computer science standards in PA and then figure out how to properly certify teachers to teach computer science.

Based on documents from the PA Dept of Education, it appears as though math or business ed. certification is acceptable for teaching computer science in PA. We are still looking for a memo that was sent out ~4 years ago requiring computer science to be taught by a business ed teacher. If you can get a copy of this memo, please get in touch with Andrew Ruether (ruethea@lmsd.org)

We believe that there aren’t any current standards for teaching computer science in PA. There are various standards that relate to computer science that are currently located in other disciplines.

One idea: Adapt (or adopt) CSTA Model Curriculum Levels II, III, and VI to create PA Computer Science Standards.

Debbie Carter (carterd@e-lcids.org) is coordinating a group to match the ACM K-12 Level 2 curriculum to various PA standards (math, science, and "school & careers"). Please get in touch with her if you are interested in participating in the group.

We should continue to have meetings
• Proposed next meeting: 3rd week in May
• Would be good to videoconference with Lehigh Valley

Need to get the word out to more CS teachers. Some ideas:
• Bring a colleague to the next meeting
• Get in touch with Philadelphia School District teachers via the Cisco mailing list
• Contact Intermediate Units to get word out
• Send a letter to all local principals
Links from the Meeting

PA Department of Education:

- Certification and Staffing Policy Guidelines (what schools use to determine who can teach what type of class)
  www.teaching.state.pa.us/teaching/cwp/view.asp?a=131&Q=105885

- Certification and Staffing Policy Guideline for Math:
  www.teaching.state.pa.us/teaching/lib/teaching/050_MathematicsCSA_6800.pdf

- Certification and Staffing Policy Guideline for Business, Computer and Information Technology:
  www.teaching.state.pa.us/teaching/lib/teaching/033_BusinessComputerInformationTechnologyCSA_0603.pdf

- Requirements to obtain mathematics certification:
  www.teaching.state.pa.us/teaching/lib/teaching/Mathematics.pdf

- Requirements to obtain Business, Computer and Information Technology certification:
  www.teaching.state.pa.us/teaching/lib/teaching/Business.pdf

Other Links:

- Computer Science Teachers Association (CSTA): www.csta.acm.org

- Association for Computing Machinery (ACM): www.acm.org

- Special Interest Group on Computer Science Education (SIGCSE): www.sigcse.org
What it is and what it can do for you!

ACM
• Association of Computing Machinery
  – The First Society in Computing
• Founded in 1947
• Charter: Advance the skills of information technology professionals and students worldwide
• Over 50,000 members
• Thirty four Special Interest Groups (SIGs)

ACM and Education
• Professional Development Center
• Education Board
  – Accreditation Activities
  – Curricular Recommendations
  – Java Task Force
• Digital Library
• Student Chapters
• SIGITE (Information Technology Education)
• SIGCSE (Computer Science Education)
• Computer Science Teacher’s Association (CSTA)

SIGCSE Mission
• Provide a forum for CS educators to discuss development, implementation, and/or evaluation of
  – computing programs
  – curricula
  – courses
  – syllabi
  – laboratories
  – other elements of teaching and pedagogy.

How?
• Conferences
  – Symposium every spring in USA
  – Conference every summer in Europe
• inRoads (Quarterly Bulletin)
• Mailing Lists
• Committees
• Grants
• Education Links

Membership & Benefits
• ACM membership ($100)
• ACM Digital Library ($100)
• SIGCSE Membership ($25)
• SIGCSE Benefits
  – mailing lists
  – inroads
  – SIGCSE subset of Digital Library
  – member rates for conferences
More Info

• ACM: acm.org
• SIGCSE: sigcse.org

daniel.joyce@villanova.edu
What CSTA is doing for K-12 Computer Science Teachers

Debbie Carter
CSTA Board of Directors
Lancaster Country Day School
Lancaster, PA

Mission Statement

The Computer Science Teachers Association is a membership organization that supports and promotes the teaching of computer science and other computing disciplines.

CSTA provides opportunities for K-12 teachers and students to better understand the computing disciplines and to more successfully prepare themselves to teach and learn.

Purpose

Other organizations address the use of technology across the curriculum, but only CSTA speaks directly and passionately for high school Computer Science at the national level.

Purpose (continued)

- **Community** of educators
- **Professional Development** (JETT/TECS)
- **Advocacy** for comprehensive CS curriculum
- **Communicate** to students (excitement & opportunities)
- **Research**
- **Policy** recommendations
- Awareness of qualifications of CS educators

Community of Educators

- **CSTA Voice** (newsletter)
- CSTA Web site: a central location for information and resources for CS educators
- Blog

Professional Development

- **CS & IT Symposium**
  Workshop series:
  - **JETT** (Java Engagement for Teacher Training) Java & OO
  - **TECS** (Teacher Enrichment in CS) introductory programming
Professional Development (cont'd)

JETT/TECS common features:
- Sponsored by colleges for CS teachers
- Community building
- Equity component
- Minimal (or no) fees

Professional Development (cont'd)

- Career Resource Centre
- SUN Academic Initiative Program (free online courses)

Advocacy for CS curriculum

- Objectives and Outlines expand the ACM K-12 Model Curriculum
  - Level 2 is nearly complete
  - Level 3 is being developed
- Response to State of the Union: CSTA & PR firm are launching a media campaign

Communicate to students

- Resources to communicate the excitement & opportunities of CS

Research

- Surveys
  - Past: Teachers
  - Current: Certification (by state)
  - Future: College computing programs
- Disseminate results
  - News agencies
  - CS community
  - Larger educational community

Recommend Policy

- Curriculum standards and required courses
- Teacher certification
K-12 CS Web Repository

- Original materials
  - From JETT/TECS workshops
  - Submitted by individual teachers
- Classified according to ACM K-12 Model Curriculum
- Searchable database
- Projected inauguration: Summer 2006

K-12 CS Web Repository

Information about each resource:
- Author(s)
- Source
- Publication Date
- URL for materials
- Description (abstract)
- Keywords
- Programming Language

K-12 CS Web Repository

Material type(s):
- Professional development (teachers)
- Instructional materials (students)
- Source Code
- Multimedia presentation
- Assignments (Lab)
- Assignments (Written)
- Assessments
- Animations/Graphical
- Other type of material:
Computer Science Certification Issues
Andrew Ruether
Harriton High School
Lower Merion School District

Certification Is a Major Issue
- Topic of discussion at first PACSE meeting
- Much confusion over requirements
- 2005 CSTA High School Survey discussed in December issue of the CSTA Voice
- No CS certification in PA
- Root of the problem: Lack of knowledge of what CS is!

Who Can Teach High School Computer Science today?
Check the Certification and Staffing Policy Guidelines for different content areas
- Math Teachers: CSPG #50
- Business Ed. Teachers: CSPG #30
- Business Ed. only memo?

What Do We Want?
- Insure that computer science teachers are adequately prepared to educate students.

Ideas:
- Create CS certification
- Create CS “Program Specialist” add-on
- Add CS requirements to math or business ed. certifications

Create CS Certification Requirement
- Mandatory requirements
- Insure that high school teachers are well qualified to teach CS
- The challenge: demonstrating the benefits to school districts and the PA Dept. of Ed.
- Not easy to add another certification type

Thanks To
Marjorie Blaze, Chief of the Division of Teacher Education in the Bureau of Teacher Certification and Preparation with the Pennsylvania Department of Education
Create a CS Program Specialist

- Add on to existing certification of any type
- Available through extra coursework or workshops.
- CS Program Specialist existed in the early 90's.
- Currently only have an “English as a Second Language” (ESL) specialist

Add CS Requirements to Math and/or Business Certifications

- Require all candidates for math and/or business certification to take some CS courses.
- Would need to bring state math group together to analyze requirements.
- May increase number of teachers available to teach CS classes competently.
- Requirements for math certification
- Requirements for business ed. certification

Discuss!