

**Notes for CUHS Community Advisory Meeting – ICT
(Information & Communication Technologies)
Software and Systems Development Pathway
December 2, 2013**

Attendance: Dave Dressler – SDCOE, Cristobal Rodriguez – ICOE, Hector Corella – CalEnergy, Jared Kuhn – IID, Tony Eyer – Rabobank, (Mike Sterner, Emilio Davila, Ana Vizcaino, Mara Sanchez – CUHS), (Philip Villamor, Edwin Obergfell – IVROP), Todd Finnell – IVC, Rudeen Monte - Consultant

Purpose of Meeting (as included on Agenda): *Central Union High School, IVROP, postsecondary institutions, and local industry representatives will collaborate in the design of a career pathway which includes computer science courses at the secondary and postsecondary level, introduction to jobs / experience with local businesses, and guidance in this process for each student. This Career Pathway will provide high quality classroom instruction that is current, relevant, accessible and timely so that students may move as quickly as possible to the next level, including taking college level courses while enrolled in high school.*

Other than introductions, the agenda for this meeting included three main areas: 1) **Overview of the current Educational Program and tentative Plans for the future – information provided by Phil Villamor of IVROP and Emilio Davila and Mike Sterner of CUHS; 2) **Group Discussion** of the Career Pathway – Input from industry on information presented and questions/clarifications, etc; and 3) **Next Steps** – Discussion by all of next steps based on previous discussion and future plans.*

Overview – Central Union High School is in the process of developing a Career Pathway in the ICT – Information and Communication Technologies sector (Software and Systems Development Pathway). They currently have an incomplete pathway that culminates with a new – introduced this year – AP Computer Science Course. There is an Intro. to Computers course that is in the process of being updated and there are plans for a new course – plans for new Exploring Computer Science Course – that would be a second course that better prepares students with introductions to programming and chances to engage in projects like entry level robotics. The possibility of another course to be developed to come between the Exploring Computer Science Course and the AP Computer Science Course and / or another course to come after the AP Computer Science Course was part of the discussion. It was shared that the CUHS team had already met with IVC Computer Science Instructors and that a class (CS 230 Basics of Programming) identified as the course that the current AP Computer Science course would likely be equal to / articulate to, and there was discussion of the fact that there were a couple courses that together the educational agencies had identified as being possible to either concurrently enroll in or possibly offer a course at CUHS that followed the AP Computer Science course and would articulate to one of the others (CS230 Object Oriented Java and CS280 Assembly Language).

Group Discussion – This section basically broke down into discussions around three areas (Curriculum, Certifications, and Work Experience).

Curriculum: Advisors offered that the AP Computer Science course description had a high level of rigor and that Algebra II was important. Some emphasized the importance of advanced math including pre-calculus and calculus to prepare for programming. Less attention needs to be paid to particular systems. Rather, the person needs to know what the tools are capable of; a person can become familiar with logic and language and can move from one system to another.

Others spoke about the need for soft skills including communication, ability to collaborate, knowledge of the industry in which the employee works (e.g. banking, games, geothermal energy). Specifically, people in ICT need to be able to put complex ideas into understandable terms; this ability is apparently lacking for many graduates. There is a need to integrate soft skills into the curriculum whether the course is separate (such as Speech) or whether there are opportunities for practice within a computer class / computer classes in the pathway.

Overall, discussion of the curriculum and the plans for curriculum / courses at CUHS concluded with agreement that the AP Computer Science Course and the planned for ECS – Exploring Computer Science Course were good, rigorous courses.

Also, there was general agreement on the plan to look at a plan for course in between (possibility of next Computer Science AP course "Principles" being the one). Finally, the idea of concurrent enrollment and /or a similar course to end the sequence and articulate all seemed reasonable to the group.

Certification: The question of the importance of certification was discussed some. Students and employers want there to be some kind of certification. The advisors thought that certification was important in the end but that most of the certification available in programming would be at a higher level. Their idea of possibly embedding components into a locally recognized certification was discussed as something that might be possible. IVC indicated wanting to rebuild its courses to embed certifications into its curriculum.

The advisors offered the following list of important skills / positions common to local employers:

- Data warehousing
- ETL's
- DBA developers
- Business architects - need programmers with an understanding of what business needs and how to use it.
- Business system analysts to guide management in making decisions (risk, finance)
- Geothermal background
- Product owner to facilitate communication between IT and stakeholder

Work Experience – Work Experience would provide exposure for business about the potential of future employees from this area and the ability to influence how that workforce is prepared. The student learns about the range of jobs that are available and is exposed to how to work as a team member within a particular business. Qualifications for an internship might include:

- Has completed AP course
- Background check
- Worker's Comp and liability coverage - provided by IVROP

*A good deal of discussion of a possible good internship type position being the IT support desk was had. Both IID and Rabobank representatives seemed to think that this was an area that might work in that it could possibly be approved by management and would actually provide exposure to a range of areas for the student.

Next Steps - All of the business representatives offered to explore what might be possible for work experience not only in ICT but other areas as well. Phil will follow up with each individual.

- Cal Energy is interested in developing an internship program in ICT and other technical areas. Hector will talk with managers to see about next steps.
- Tony will make inquiries at Rabobank HR/Legal to see what might be possible.
- Jared will talk with the IT manager and others at IID.
- Cristobal thought that ICOE might have some opportunities in software development doing testing, and indicated he would inquire.
- Todd said that IVC already has some internships available for high school students and will accept CUHS students.

There was also interest in doing a survey of local businesses to find out what tech jobs are available in IV.

Phil will also explore grant opportunities to help fund the time and resources it takes for further development of the curriculum, work experience, and outreach to graduates.

Phil will coordinate with everyone and keep everyone up-to-date about progress over the next few months. He will convene the group again in May.