Natural Sciences Division

PCC GIS Academic-Industry
Advisory Board Agenda
Wednesday, April 29, 2020

MEETING MINUTES

In Attendance:

Jessica Golden—Blodget Baylosis Environmental Management
Warren Roberts—Rio Hondo College
Randall Clark—CSU Fullerton
Alexandra Hamilton—Sapphos Environmental Inc.
Benjamin Hwang—Worley Parsons
Adam Aaron—Southern California Edison
Steve Steinberg—Los Angeles County, Geographic Information Officer-GIO
Hector Agredano—Pasadena City College
Brennan Wallace—Pasadena City College
Rhea Presiado—Pasadena City College
Martha House—Pasadena City College

Topic

1. **Introductions, welcome**
2. **New certificate and degree options**
    a. Small unit Certificate of Achievement – **Geotechnical Skills** Certificate of Achievement
    b. Certificate of Achievement – **Geographic Information Systems and Technology** AS/CoA
    c. Associates of Science Degree

Discussion on Certificate of Achievement

Clark and Steinberg: Recommend **changing name "Geotechnical" to Geospatial or GIS certificate.** They reason that when hiring, companies usually look for GIS. Geotech can be confused with a geology or earth science, mineral certificate. If possible, change classes designation from **GEOG** to **GIS** if we are getting our own certificate.

House: We would have to check with C&I if class designation changes are possible/desirable right now.

Discussion on Associates of Science Degree

Wallace: Looking at course listings, the **CIS course that uses Python**, does not have prerequisite, can be taken online. It does not teach direct Python into GIS, so we've incorporate that into GEOG 12. We have tried to design programming for natural sciences class—process has not been approved yet.

Steinberg: Maybe CIS programming courses can incorporate a module—recruit students from CIS to GIS by incorporating GIS modules in their class.

Golden: Recommends looking at Statistics courses with **R software** for statistics modelling

Group discussion reveals that R is more advanced, used mostly in statistics.

Wallace: Look at the introductory **CAD course**. We are debating as to whether we should ask if we should do design CAD or Engineering CAD which might be more building based.

Warren**:** Many public works offices use CAD—which is more mechanical, they are encouraging them to use parcel/cadastral material in courses. You don't need to be an expert in CAD but you need to know how to work with it.

Steinberg: Indoor mapping, modeling and other applications are developing indoor mapping.

Aaron: When we are hiring, CAD is a desirable skill—if they are doing design for engines, it's not the correct course. They should be able to do schematic designs. A class with building footprints is better.

House**:** Engineering is within the Natural Scinces. They have CAD data for all buildings. We should see I there is a class that introduces students to CAD class in Engineering

Clark: Invite faculty in engineering to ESRI UC to see CAD or Python applications

Roberts: Make sure that you know what kind of CAD program are they using. You need to make sure that you are using the same software across classes so that you don't lose time learning new interface.

Clark: Fullerton uses CAD for architectural design work. It's best to look for a **CAD course in civil engineering**, than just one with a focus on industrial design, architecture or engineering.

Agredano: The reason we listed the CAD course in fabrication is because we have not found a course that uses Illustrator, which is preferred for cartography. Would the class on Adobe Photoshop work?

Roberts: Adobe Photoshop is not necessary. Illustrator is the best software for high-quality professional design. Perhaps you can introduce a module on Illustrator in cartography class.

Agredano: That has been the plan, to integrate Illustrator into two-week module. Pandemic changed that.

Golden: QGIS has better design and cartography capability than ArcGIS and works with R and Python.

Steinberg: Stick to ArcGIS and students will know where we can integrate QGIS.

Roberts/Aaron: Companies don't use open source software in internal work.

Agredano: We use open source software as an option to make sure that students know how to use it if they are hired by NGO or other organization without access to ArcGIS industry software.

Hwang: In terms of statistics, a full load of courses on statistics might not be useful. Instead, I would suggest students have the Microsoft Office course because it's more CV friendly for hiring managers.

Roberts: It's not worth it to have several math and statistics classes since you will only do simple statistics in GIS. More advanced analysts will use statistics, but most entry level jobs use software.

Hwang and Steinberg: Make sure to include animations, such as GIS flyover as part of student portfolios. It a very marketable skill and adds to the presentability of maps. A class in UX Design would be a good elective.

Agredano: We do flyover animations in ArcScene, we just integrated a module last semester. Will continue doing more in ArcPro.

Wallace: Should we make the first one required or move Surveying class?

Steinberg: Surveying class could be one of the most valuable to add as an elective.

Roberts: Would anyone interested in health or law enforcement get a lot out of environmental consulting? Give people an option if they are in public safety or health, give them a different option besides environmental. Offer options for non-environment users.

Steinberg**:** Do we have any classes that we could add to this? Business Logistics, perhaps.

Wallace: We thought about having different certificates that could specialize students but it was becoming very complicated.

Steinberg: Give students electives to go along with the core. Where the electives become the capstones. Think of having students work as an undergrad senior capstone. Independent study classes give students projects to present full skill set.

Warren: We have collaborated with marketing, civil engineering has two programs required in GIS, alternate energy, environment and technology and other classes have GIS requirements. For example, into to GIS course is being integrated as a GE. Depends on the State. If we make it a GE course then more students will take the class.

After discussion on degree courses, meeting moves to a vote:

Vote to approve New GIS Certificate of Achievement:	For: Unanimous	Against: 0
Vote to approve New Associates of Science:	For: Unanimous	Against: 0

3. **ArcGIS Desktop vs. Pro, AGOL, QGIS, other**

Wallace: ArcGIS Online has been incorporated in our labs. With pandemic transition it has become part of our work as well. How much AGOL should we use? What is the use of Desktop vs. Pro? Should PCC abandon Desktop and transition to Pro?

Steinberg: ArcGIS Pro is becoming more important. Pro is becoming more useful in interaction with AGOL. We are doing a lot of AGOL for web apps—like coronavirus—and tools for non-GIS users in departments and public. AGOL is very useful for applications, so web apps in AGOL are becoming more widespread.

Roberts: Rio Hondo and Claremont Colleges are moving into Pro. "Once you learn how to work with Pro, there is no going back to Desktop."

Golden: Most of the workplaces she has been at still use Desktop.

4. **Other Suggestions and Action Items**
   Board members express support for new AS and CoA, offer support to continue advising degree options at PCC. Will keep in touch with GIS instructors/Division to keep adapting to changing trends in field.