## Mt. San Jacinto CollegeCareer Education Advisory Meeting Minutes

February 26, 2021

**Breakout Group:** Engineering/GIS/Makerspace

**Participants:**

* Roy Mason MSJC Faculty (Biology, ENVS, GIS)
* Hal Edghill MSJC Makerspace Operations
* Tim Dignan TVUSD Faculty (CTE, Adult Ed)
* Tom Oxford MSJC Apprenticeship Manager
* James Bae Consultant to MSJC Engineering program
* Gregory Griffes Boeing Programmer
* Angela McClaron San Jacinto HS Counselor
* Molly McMillan MSJC Assoc. Faculty, Engineering
* Avante Simmons MSJC Director of Career & Strong Workforce
* Dwight Duffie MSJC Faculty, Computer Science
* Marilyn Harvey MSJC Dean, Career Education

Roy Mason started the conversation by describing how he has been moving the GIS program out of the Geography department, where it used to reside

* There had been decreasing student involvement in that GIS program over the last 5 years
* The new program will provide academic certificates and Associates degrees
* He noted the employment focus of the program and an interest in providing apprenticeships to students
* Only one local university offers a Bachelor’s in GIS
* Most industries require Master’s degree preparation for employment
* Noted that drone technology is also being used in GIS industries
* GIS is seen to service many kinds of industries
* In adding the Eagle Makerspace to the GIS program
	+ Grant funding was obtained to add computers to lab for student uses
	+ Computers will be used Engineering students in that program
	+ Adding supports to MSJC students
* Anticipation of opening TVC
	+ GIS would be a white collar applied technology

Jim Bae described Engineering’s prior focus on land surveying

* This surveying branched to the teaching of drafting (CAD)
* Recently reactivated Associate’s degrees in these disciplines
* There are now 16-17 courses when there used to be 3-4 classes
	+ There are Design Engineering courses
	+ Static & structural materials
	+ With intent to transfer to 4 year schools
	+ Contrasting CAD & geo spatial engineering
	+ Logistics & advanced manufacturing programs to get up to speed
* Happily there are almost too many options at MSJC right now
* Want to focus on strengthening relationships with K12

Tim Dignan described his work at Great Oak and Temecula Valley high schools as CTE with an emphasis on Engineering.

* He noted the differences in the vocational interests of the students contrasted with the pathways to 4 year institutions of the parents.
* Robotics are used within the current pathways
* CAD and 3D printing are also used, with an eye to the manufacturing industry
* Emphasis of design side importance
* Working on articulation with MSJC
* Currently a 6 period day that can restrict course selection
	+ If student changes major, completing classes in this structure very difficult
	+ Emphasis on educating middle school students to select an appropriate pathway before high school
* He would like use the Eagle Makerspace to help coordinate and educate middle school students, as well as work with TVHS students
* Understanding the utility of drones in GIS, Tim noted that Great Oak HS ROTC has an established and active drone program

Tom Oxford shared his desire to better align articulation classes between school districts

Hal Edghill shared a description of the Eagle Makerspace

* Located on the Menifee Campus
* Technologies available include 3D printing, laser cutting/etching, button-making
* Available workspace for students to explore own projects
	+ No specific curriculum connected to most activities yet
* Laboratory open to college students for no cost
* Learning opportunities
* Faculty of several disciplines have sent students to participate in MS activities
* Biotech students worked with Biology instructor in lab
* Would like to expand connections with faculty/curriculum
* Planning for expansion also into community projects
	+ Arrangements to accept monies via MSJC Business Services almost complete
* Shared that MS has worked with Girl Scout Council already and look forward to working with other middle & high school students in the future

Gregory Griffes (gggriffes@gmail.com) shared that he works for Boeing, in El Segundo, and lives in Temecula

* He has worked with a robotics program in Murrieta schools
* He has taught about microprocessors and electrical engineering in a Michigan college
* He was involved in PPE production for Murrieta at the beginning of the pandemic
* Gaming programs like Unity and Tenser Flow
* Served on another advisory for electrical engineering
* Works with IEEE
* Would like to have a Martian Experiment when students could emulate 3D printing of housing on Mars, using available materials (soil) at that location
* He noted that Boeing is starved for engineering students
	+ Some robotics experience useful but they need software programming skills the most

Molly McMillan (mrsmollymc@gmail.com) described her academic history as a CCC and San Diego State student

* Bachelor’s in Engineering and Master’s in Civil Engineering
* She identifies with the need for trades

Dwight Duffie shared teaching CIS

* Taught with using Arduinos & circuit boards
* He has presented College For Kids program for middle & HS students
* Noted that computer science is often included under engineering at many universities
* Would like to see more machine learning activities presented

Avante Simmons noted the PPE production using 3D printing technology, that took place in the Eagle Makerspace.