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| **Palomar College** **Cabinet & Furniture Technology****CFT Advisory Committee Meeting**  |  |

**Meeting Minutes**

April 13, 2016 1600-1815

**Attendees:**

Jon Stone Chairman/Department Head

Carl Carpenter Carpenter CNC Woodworking

Jim Melser Backyard Millworks

Chris Geldart San Marcos High School

Mike Broomell Valley Center High School

James Shelton Illusion Guitars/Faculty

Brenden Mathews Foothill Cabinetry/Faculty

Jennifer Anderson Faculty

Chance Coalter Faculty

Georg Kast Teaching Assistant – Facilities

Bill Overman Palomar Student

1. **Welcome Overview**Jack Stone kicked off the meeting stating the purpose: “To engage in a discussion with local woodworking industry personnel along with secondary school and faculty representatives in order to review the current program status and to solicit recommendations for program changes and expansions to better serve our students in finding employment opportunities leading to self-sufficiency.”

Introductions were made all around
2. **CFT Program Overview and Update**
Jack Stone reviewed the highlights and issues in the program including the following topics:
 - Enrollment Status – Over 850 students this school year with an encouraging mix of backgrounds including recent high school graduates, returning students and military veterans
 - Completion rate for Certificates and Associate Degrees remains high
 - Faculty positions remain predominantly adjunct with only one full time permanent teaching position and no classified position to support operations.
 **- *External committee members considered this ratio inadequate to ensure desired program outcomes and a stable workforce.***

Jennifer presented the immediate opportunity for incremental funding to support the program by applying for a Perkins Grant.
 **- *There was considerable discussion regarding possibilities for using additional funds***
3. **CFT Equipment and Facilities Update**
Georg Kast provided a brief update on the status of the facilities and equipment in the CFT operations. Topics included:
 - Overall satisfaction with the operation and maintenance of CFT Machinery, pointing out that without the support and dedication of CFT Program volunteers, the program could not continue. There are insufficient funds in the annual operating budget to cover equipment repairs.
 **- *The High School representative indicated this was also an issue at the high school level.***
 - Timberframe Structure issues could impact the continued operation of the Urban Lumber Program. The CFT Department was trying to coordinate with Palomar College departments, architects and engineers contracted to construct new facilities and licensed timberframe engineers to resolve the issues. The objective remains to certify the existing structures or retrofit them with the necessary modifications to meet California Department of State Architect (DSA) requirements.
 - The existing HAAS CNC machine is underutilized in the program.
 **- *This generated significant discussion about the need to integrate this device into the curriculum and to further expand the use of technology in the CFT program.***
4. **Enrollment Needs**Jack Stone discussed the need to maintain our enrollment numbers to ensure adequate funding for the 2016-17 school year. Focused attention needs to be made to attract students from the military and to under-served and under-represented groups. He indicated a plan to work with military outplacement centers to raise awareness of Palomar College and the CFT Program. He also wants to align more closely with High School woodworking programs in terms of curriculum and tooling to ensure a smooth transition to post-secondary education at Palomar.
5. **Workplace Trends**Industry representatives commented that work in the industry continues to move to more technology and automation. This is driven, in part, by the inability to find qualified workers familiar with the high-tech machinery currently being used in shops. Brenden Mathews cited recent published information that 80% of woodworking jobs are in the cabinetmaking field. Carl Carpenter remarked that in order to be competitive in the cabinetmaking business today, the use of CNC and automated machinery is an imperative.

This line of conversation bled directly over into the next topic.
6. **Discussion**The purpose of this segment was to discuss the previous information and to develop recommendations for the Palomar College CFT Program.

From Workplace trends, the conversation focused quickly on a critical deficiency in the CFT Program, specifically the urgent need to incorporate Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM) processes into the curriculum. Skills in these areas are essential if the program is to remain relevant in today’s business environment.
 ***- One committee member stated that the technology in the Palomar Mill and Cabinet working curriculum was outdated by more than 25 years as far as it relates to industrial practices today!***

While considerable discussion revolved around which hardware and which software would be best suited for the Palomar CFT Program, it was agreed by all that these aspects of the industry have changed significantly over the past several years and the continued change into the future would continue. Therefore, student familiarity with CAD/CAM principles and development of skills using these tools was more important than the specific platforms. Industry committee members agreed there was not one single preferred set of tools in the cabinetmaking industry and once graduates had the basic skills, the specific software and tools would be obtained at the place of employment.

***The high school representatives stated that their facilities were already using and focused on CAD/CAM tools*** and they agreed that a phase approach to designing and building using these tools was the best approach. First designing simple projects using 3D printers or laser engravers, then moving to more complex projects using CNC routing machines.

The cost of incorporating CAD/CAM principles into the Mill and Cabinet Work program track was also discussed. The consensus of the external committee members was that it would take $80K or more for an “industry scale” panel processing CNC machine and the associated software and an additional $20K or so for a reasonable laser engraving machine. In addition, they indicated the need to get instructors trained in the software and on the machinery as well as setting funds aside to maintain these devices (another potential job skill).
7. **Recommendations:**1. Work to procure CAD/CAM tools and integrate them as quickly as possible into the Cabinetmaking curriculum. Software tools should have minimal learning curve in order to allow students to graduate in 2 years. Software options discussed for the Cabinetmaking and Millwork classes were comprehensive. 2 programs surfaced as first choices. KCD was the design software that was determined most practical for our program. Enroute was the machining program that was thought to be the most practical.

2. Integrate CAD/CAM processes into the furniture making and luthier programs using the HAAS CNC machine to provide separate paths for students to prepare them for self-employment (traditional methods) or industry employment (CAD/CAM methods). For the Haas machine several options were discussed, and it was determined to continue to explore the software options. Fusion360 was perhaps the strongest contender as it would serve both as a design and as machining software, James Shelton and Bill Overman agreed to explore this option more thoroughly and report back.3. Chirs Geldart suggested that Palomar College explore the opportunities to work more closely with area high schools (especially San Marcos High school) in the areas of Dual Enrollment and alignment of technology tools.

4. Hire more full time permanent instructors to ensure program continuity and sustainability. Jack Stone mentioned that one more Full Time faculty would be hired for fall of 2016. The committee agreed that this was not enough and that the program should have at least 3 or 4 full time faculty for safety and to manage and the facilities and to keep up with industry standards, i.e. CNC machining.

5. All committee members were adamant about the efforts to preserve the Timber Frame structures and the importance of the Urban Wood saw mill both to the CFT students and to the community at large.