Palomar College
Cabinet & Furniture Technology

CFT Advisory Committee

Meeting Agenda 4/15/21 1300

Topic		Presenter	Expected Outcome	Time
I.	Welcome & Introductions	J Anderson		5 min
II.	CFT Program Overview and Update	J Anderson	Understand Program Health, Issues and Opportunities	15 min
III.	CFT Equipment and Facilities Update	G Kast	Understand Health and Issues with Assets	5 min
IV.	Workplace Trends, Tech Stds & Needs Discussion	Industry Panel	Shared Information	25 min
V.	Recommendations	All	Develop Recommendations	10 min

Committee Members:

Jennifer Anderson	Chairman/CFT Lead Instructor
Ruishan Chow	Sector Navigator Palomar College
Ruben Foat	Cerritos College WW/Mfgr Inst.
Adria Torrez	Director of Education, AWFS
Adam Kessler	AWFS
Chris Geldert	San Marcos High School
Scott Paul	Director, Natural Resource Sustainability; Taylor Guitars
Di Jin	AutoDesk
Steven Spooner	Spooner Woodworks/Woodworkers Institute
Patrick Lorenz	Advanced Manufacturing
Georg Kast	CFT ISA

Palomar College
Cabinet & Furniture Technology

CFT Advisory Committee Meeting

Meeting Minutes

April 15, 2021 1300-1400

Attendees:

Jennifer Anderson	Chairman/Lead CFT Instructor
Ruishan Chow	Workforce Mgmt Sector Navigator, SD Community Colleges
Adria Torrez	Dir. National Initiatives, AWFS
Adam Kessler	Mgr of Education; Assn of Woodworking & Furniture Suppliers (AWFS)
Reuben Foat	Dept Chair - Wood Manufacturing - Cerritos College
Steve Spooner	President, Spooner Cabinetry
Chris Geldert	San Marcos High School
Scott Paul	Director, Taylor Guitar; Chairman Tree SD Board
Di Jin	Educational Contact – Autodesk (Fusion 360)
Patrick Lorenz	CFT TA; background in CNC manufacturing & Mgmt
Georg Kast	CFT Instructional Support Assistant

I. **Welcome Overview**

Jennifer Anderson kicked off the meeting stating the purpose as a discussion with local industry professionals engaged in wood manufacturing industry along with secondary school and college faculty representatives. The meeting was held remotely over ZOOM due to the continued social distancing requirement. The discussion is focused on the current status of the CFT Program and the woodworking industry to solicit recommendations for the Program to better serve our students and provide them with opportunities to earn income in the woodworking industry. Introductions were made all around.

II. CFT Program Overview and Update

Jennifer Anderson reviewed the highlights and issues in the college and the CFT program including the following topics:

- The CFT Program scope is significantly reduced from its zenith of about 10 years ago. Course offerings have been steadily throttled by the administration so that, prior to the pandemic, we have been limited to 28 4-hour class segments, down from 38 in 2017. The number of offerings has been further reduced to 13 4-hour class segment in Spring 2021 due to COVID restrictions. Additional COVID constraints include a hybrid approach

to learning where the classroom portion of the instruction is on-line and only the Lab portion is in person, and that limited to 12 vs. 24 students per class.

- There are some additional constraints on the CFT program. She noted that she remains the only full-time faculty in the program, down from a high of 5. While a position is open for another full-time instructor, the fiscal issue of last year and the pandemic this year have resulted in no action to fill the position.

- Jennifer noted the completion of the new storage facility for the CFT program, but added that as a result the Urban Lumber operation has been at a standstill due to the elimination of the structure which supported the operation as well as some equipment issues.

- Jennifer presented some of the draft materials supporting her rework and rebranding of the program to work within the constraints of class availability and to focus on advanced manufacturing capabilities.

* Reducing the number of Certificate/AS Degree Programs from 9 to 6 (see attached).

* Reworking the curriculum to incorporate a Digital Fabrication component and Certificate/AS Degree Program (see attached).

* Reworking the requirements for the remaining 5 Certificate/AS Degree programs to fit within the constraints of the recent limitations on class offerings and a 2-year completion goal (see attached).

III. CFT Equipment and Facilities Update

There was a brief review of the status of the facilities and equipment in the CFT operations. Topics included:

- Overall the state of equipment in the CFT labs is good, however some of the equipment is showing its age. Planers, belt sander and lathes, in particular, are requiring frequent repairs and will need capital funds for replacement.

- The equipment supporting the Urban Lumber operation need repair and the lack of a structure to house them preclude their full utilization and contribute to ongoing degradation.

- The Program now has good CNC and digital equipment; however, they are underutilized and not integrated into existing curriculum.

IV. Workplace Trends, Tech Stds and Needs - Discussion

- Scott Paul indicated that Taylor Guitar is now producing over 900 guitars per day; many now utilizing Urban Lumber. They continue to struggle hiring skilled workers to support their manufacturing operation; much of which is done using software and CNC routers.

- Scott also indicated that there is currently a massive investment in Urban Lumber and Forests, especially under CalFire in California. This includes all facets of wood utilization

with a focus on moving this segment to an industrial scale. He indicated that Palomar College CFT was an early advocate of Urban Lumber and has become an important part of the San Diego Urban Lumber community.

. Committee members agreed that, while the variety of software being use by the woodworking industry is wide and varied, the Program should focus on CAD/CAM tools with a quick learning curve so students become productive as quickly as possible. Different shops use different tools and employers will take graduates with some proficiency and train them to their tools and processes. A quick learning curve is paramount so that students can rapidly see the product of their design work in prototypes and finished products. Whereas a working knowledge of Autocad is probably the best foundational base for quickly learning these other applications, it has a steep learning curve. Fusion 360 may be the best tool currently available for use in the general woodworking area (i.e., not cabinetmaking).

- Jennifer pointed out some of the issues with capturing relevant information from existing sources regarding woodworking jobs for use in attracting students from different demographics into the CFT Program. Participants agreed that this is due, in part, to the myriad of woodworking paths including: self-employment, 'Gig' jobs, industry diversity and work being done 'under the table'.

- The relevance of the woodworking industry is demonstrated by the fact that the members of the committee from the cabinetmaking industry indicated that they are still working during the pandemic and still looking for qualified resources. Steve Spooner indicated that, while skills in woodworking fundamentals is important, his production is focused on CNC machine operation. He is still looking for Draftsmen/Engineers with some woodworking skills/experience. Chris Geldert indicated that he has had students graduate and go directly into industry with only limited Autocad experience.

- There was additional discussion regarding the need to expand the type of students that could benefit from CFT Program classes. CNC manufacturing skills are transferrable to other industries including metal and plastic fabrication. This coupled with the CFT approach using project-based learning can provide students significant opportunities in a variety of fields. Starting with CFT 100 , Woodworking Fundamentals, students learn how to complete a project on time while also developing proficiency in soft skills in addition to woodworking skills.

V. Recommendations

The purpose of this segment was to review the discussions and to develop recommendations for the Palomar College CFT Program.

1. **Digital Fabrication -** Continue to integrate CAD/CAM tools and incorporate them as quickly as possible into the curriculum for all appropriate classes. While more than one software tool may be needed to cover both Cabinetmaking and general woodworking, the specific tool is not as important as the learning curve required to become functional

using it. Instructors need to become familiar with the available digital tools and fabrication machines. Continue to move forward in creating a separate certification/degree program emphasizing Computer Aided Manufacturing. A 4th axis to one of the existing CNC machines will provide students additional latitude in developing products beyond flatwork.

2. **Curriculum –** Digital Fabrication methods should be integrated into all appropriate classes to be taught alongside traditional methods. This integration should also include aspects of Urban Lumber so students understand the breadth of the woodworking industry.

2. **Staffing -** The permanent faculty on the CFT staff desperately need to be increased. This will allow the resources necessary to make the necessary changes to the program and curriculum.

3. **Equipment Replacement –** Ensure there is plan in place to replace equipment as it ages or becomes non-functional. This should include hand tools in addition to floor standing equipment.

4. **Facilities –** Every effort should be made to reestablish the Urban Lumber operation in an appropriate facility to provide student the opportunity to participate in the utilization of wood from the Urban Forest in all its forms including the making and preparation of urban Lumber.

Cabinet & Furniture Technology

Certificate/AS Degree Program Update

GUITAR:

Fall: 100 - Fundamentals (4), 149 – Hand Tool (2), 195 - Finishing (2), BSMGT 153 - Entrepreneur (3)

135 A/B – Acoustic (4), 134 A/B – Electric (4)

Spring: 132 A/B – Ukulele (4), 133 A/B – Set up (2)

Fall: 135 A/B – Acoustic (4), 134 A/B – Electric (4)

Spring: 132 A/B – Ukulele (4), 133 A/B – Set up (2)

(Electives: carving, cnc)

29 Units total = 25 Units + 4 Electives

CABINET:

Fall: 100 - Fundamentals (4), 195 - Finishing (2), 185 – Machine Maintenance (2)

Spring: 105 – Machine Woodworking (4), 149 – Hand Tool (2), BSMGT 153 - Entrepreneur (3)

Fall: 165 – Cabinet 1 (4), 151 – Veneer (2)

Spring: 167 – Cabinet 2 (4), 168 – Architectural Millwork (2)

(Electives: cabinet vision, kcd, design, plastic lam, sketch up, should hand tool and machine maintenance be required?)

29 Units = no electives ;(

FURNITURE:

Fall: 100 - Fundamentals (4), 195 - Finishing (2), 185 – Machine Maintenance (2)

Spring: 105 – Machine Woodworking (4), 149 – Hand Tool (2), BSMGT 153 - Entrepreneur (3)

Fall: 165 – Cabinet 1 (4), 151 – Veneer (2)

Spring: 167 – Cabinet 2 (4), 168 – Architectural Millwork (2)

(Electives: cabinet vision, kcd, design, plastic lam, sketch up, production, should hand tool and machine maintenance be required?)

29 Units = no electives ;(

SPECIALIZED SKILLS:

Fall: 100 - Fundamentals (4), 195 - Finishing (2)

Spring: 105 – Machine Woodworking (4), 149 – Hand Tool (2),

Fall: – Box 1 (2), 151 – Veneer (2), Bending (2)

Spring: – Carving (2), 168 – Lathe (2), Marquetry (2)

XTRA –

Jigs/Fixtures

Plane Making

Workbench

Sketch Up

Production

Green Chair

Cabinet & Furniture Technology
Proposed Certificate/Degree Progrem Changes 3/17/21

CURRENT		PROPOSED
Fundamentals (Mini Cert)	=	Fundamentals (12 or 16 units? (Foundation for all certs)
Cabinetmaking & Millwork	=	Cabinet & Millwork (add digi fab)
Guitar	=	Guitar (add digi fab)
Case Furn. Construction/Manuf.	}	
Tables and Chairs	}	Furniture
Woodworking Skills	]	
Veneering	]	
Lathe	]	
Carving	]	Specialized Skills (feeds all other certs)
		Digi Fab (new)

*Currently 9 certificates

*Propose reducing and combining into 6 certificates

*One new certificate proposed: Digital Fabrication

*Goal is to get each certificate into a two year rotation

Cabinet & Furniture Technology

Certificate/AS Degree Program Update

Digital Fabrication (DIGI FAB)

Prerequisites –

- 100 (would this limit people outside of CFT and is it necessary for safety and or process?)
- Others?

Survey/Intro –

- 2 or 4 units
- Software
- Laser
- CNC
- 3D modeling (eventually?)

Fusion 1 –

- Software only?
- CNC
- Project or technique based?
- 2 or 4 units

Fusion 2 –

- If software only for Fusion 1 would this just be CNC?
- Project or technique based?
- 2 or 4 units

Other Classes (requirements vs. electives) –

- Sketch up
- Cabinet Vision (KCD?)
- Business
- Design
- Carving