Woodworking Manufacturing Technologies
Program Review Self-Study Report

1. Description of the Program

The Cerritos College Department of Woodworking Manufacturing Technologies provides woodworking education for furniture makers, cabinetmakers, CTE teachers, and life-long learners. Two primary program tracks are offered, furniture making and cabinetmaking. Future teachers take courses from both disciplines.

a. Course and Program Content

For the 2013/2014 academic year, the WMT curriculum consists of 63 courses, 9 of which are labs. Of the 54 regular courses, 28 are part of the furniture option, 14 are part of cabinetmaking, and 12 are considered general courses, applicable to either option. Course content is reviewed every three years and updated as necessary. The most recent series of updates included adding SLO’s to all courses.

Course offerings on the cabinetmaking side are driven by industry demand, most of which is communicated to the program by its Advisory Committee. Cabinetmakers need a relatively specific set of skills and the program offers courses in all areas: face-frame cabinet construction, frameless cabinet construction, architectural millwork, and CNC woodworking.

On the furniture side, offerings are driven more by student demand.

All classes in which machinery is used start with a safety exam, which must be taken and passed by students every semester. Safety is a major priority of the program, and the program has an excellent reputation in this regard. On the Program Review Student Survey (see section 2g and the appendix for details), respondents rated the instructor’s emphasis on safety 3.9 out of 4.0.

Most classes are project-driven, and in introductory and intermediate classes the project is well-defined. As students advance in the program, they gain more control of their creative choices and project complexity. Classes are run using the lecture-demonstration-practice model.

In 2013, a review of the program offerings, in conjunction with student and industry demand, indicated some changes were necessary. In an effort to better serve the industry with workers familiar with CNC technology, WMT 185 CNC Woodworking was revised (now Alphacam for CNC Woodworking) and three new CNC courses were added, WMT 186, WMT 285, and WMT 286. All are planned to be a part of a new program option, CNC Woodworking.

The loss of course repeatability made necessary two new labs, WMT 102L and 103L, which students take if they need additional instruction and practice after one of the intermediate furniture courses. WMT 242 Curved and Tapered Forms for Furniture was added due to student demand and WMT 231 Outdoor Seating was added to provide an intermediate step to the more advanced Chair Class (currently WMT 132, which will be revised to become WMT 232). The review also indicated some courses were no longer necessary, so six courses were deactivated: WMT 115, 137, 148, 218, 219L, 246, and 248.
Both program options have introductory courses, WMT 101 on the furniture side and WMT 151 & 153 on the cabinet side. Two intermediate courses follow those (WMT 102 & 103; and WMT 250 & 252 respectively), and more advanced courses follow, particularly on the furniture side. The program has no co-requisites for any courses, but prerequisites are required as necessary for advancement.

Industry demand indicates that two new program options are desirable, Woodworking Essentials and CNC Woodworking. The former addresses the need for entry-level woodworkers in large cabinet shops; the latter will help the same shops in filling the need for CNC programmers/operators. Currently, most graduates of the program who earn the Cabinetmaking certificate/degree go on to self-employment.

Articulation agreements with several local high schools aid in the transition of those students into the program. More are planned.

WMT has a high profile on campus due to many woodworking projects undertaken for various departments and organizations. Most of the projects were done by students in WMT 268 Production. These valuable projects provide a cost-effective option for facilities improvements and a real-life experience for advanced students. Recent projects include two conference tables for the Board Room; a Hall of Fame trophy case; and cabinetry, furniture, shelving, and/or countertops in the Anthropology, Speech, Cosmetology, Art, Social Science and Counseling departments. In addition, the CTX Center received new workstations, paneling, sliding doors, and a conference table; over 100 iFalcon frames were fabricated and installed around campus in support of the Student Success program; and several jobs have been completed for the Veterans Resource Center. Future projects include a remodel of the Publications outer office.

b. Student Demographics

The WMT program has a large number of life-long learners and therefore has very different demographics than the campus as a whole. Looking at averages over the last five academic years, almost two-thirds (64.6%) of the students are over 40. Almost 20% are between 19 and 24, with the remainder evenly spread between 24 and 39. More recently, the numbers are trending down for the 40+ students and up for those under 24, 57.7% and 26.4% respectively in 2012/2013. In the last two academic years, almost 20% of students have been female.

Of the students responding to the Student Survey, 65% had degrees (7% AA/AS, 34% BA/BS, 23% MA/MS+). Also of note, 43% of respondents said they were enrolled in order to gain income of some kind from woodworking (see the appendix for details).

Males and females have very similar success and completion rates, with a slight edge going to females. Success and completion rates by race show distinctly lower rates for Blacks and Hispanic/Latino (H/L) students. When averaged over five years, the success rate for Blacks is 60.8% and 77.3% for H/L students; for all others it averaged 88.3%. Completion rates are similar, 75.9% for Blacks, 85.3% for H/L, and 91.9% for all others. Part of the low rate for Blacks is due to their low enrollment, only 2.7% of the student population. If only one or two students fail, the numbers are dramatically influenced. The same cannot be said for the H/L students; they make up almost a quarter of the WMT population.

c. Faculty, Staff, and Management Resources
The WMT faculty consists of two full-time instructors and about a dozen part-time instructors. Most part-timers teach every semester, while a few rotate in and out of the schedule as needed. Both full-time instructors specialize in furniture making. The last time the program had a full-timer with in-depth cabinetmaking experience was 2004; two were employed at that time and both left the program that year.

Instructional aides (adult hourlies) are utilized in introductory classes, due to the higher risks associated with beginning woodworkers. One full-time maintenance technician is also a part of the staff.

In the Program Review Student Survey, faculty were rated highly by students on nine measures of teaching effectiveness, with 95% of students rating instructors “Very Good” (22%) or “Excellent” (73%). In addition, when responding to the open-ended question, “What is the greatest strength of the woodworking program?” two-thirds of respondents listed instructors or instruction.

A little over three years ago, the department had a Program Facilitator and three full-time faculty members. The Program Facilitator was moved to another program in 2010 and one full-timer retired in 2012. The program has had no in-house clerical support since November 2010.

Faculty/staff meetings are held at least every other month on Friday afternoons. Most of the part-timers attend regularly, along with the maintenance technician. At the meetings relevant information is discussed, including curriculum, maintenance issues, equipment selection, and events. A training session is often held at the end of the meeting; recent topics have included the use of TalonNet and specific equipment procedures.

Clerical support is often provided by the division office clerks, when it makes sense to do so. Data input, web site maintenance, and simple clerical tasks are typical tasks. The lack of in-house clerical support by someone intimately familiar with the program has been an issue, particularly for the department chair, since the departure of the Program Facilitator.

d. Scheduling Patterns

WMT classes are between four and eight hours in length per week. The majority of classes are offered two times a week, in four-hour blocks. Except for Tuesday/Thursday mornings, when classes run from 7:00am to 11:00am, classes are offered from 8:00am to noon, 1:00pm to 5:00pm, or 6:00pm to 10:00pm. Classes offered on Friday typically run six to eight hours. Classes are scheduled based on the following criteria: student demand, resource (lab and equipment) availability, and instructor availability. Introductory classes are, in general, offered by themselves, to keep distractions from other classes to a minimum.

As much as possible, intro and intermediate courses are offered every semester, with more advanced courses being offered about once a year. Some electives (mostly advanced courses) are offered every other year.

With one exception, enrollment in classes ranges from 20 to 24. WMT 268A/B/C Production Woodworking has a ten-student minimum.

e. Advisory Boards
The WMT Advisory Committee meets semi-annually to discuss current issues affecting the program and the woodworking industry. They have been very helpful in guiding the program toward greater relevance in educating future woodworkers. For example, their input regarding CNC woodworking has resulted in several new equipment purchases, along with the proposal of a CNC Woodworking program option. They are also behind the implementation of the new Woodworking Essentials program option.

f. Facilities

Program instructional facilities include two bench labs, three machine labs, a bench/machine lab combo, computer lab, spray booth, classroom, multi-media resource room, and student project storage area. Support areas include offices and storage space. Total area is over 20,000 square feet. The multiple labs allow classes to be run with minimal overlap of resources and the appropriate availability of resources for each class.

Eighty-four percent of Student Survey respondents noted ratings of “Very Good” or “Excellent” when asked about thirteen aspects of the facility. The lowest scores were on availability of project storage and computer software and availability.

Despite the high satisfaction rates, some concerns exist. Peeling paint, minor damage to walls, and areas of disorganization are evident. These small issues make for a less-than-ideal workplace and plans for improvement are in work.

g. Equipment

Machinery and equipment in the woodworking facility is, for the most part, current relative to industry standards. This allows students to become familiar with equipment they would use in industry. While current in terms of technology, some of the equipment is showing its age. In particular, the edgebander, beam saw, and compressor are about 15 years old and all three are increasingly in need of repairs. The program recently spent over $1500 dollars to fix the edgebander and in 2010 a $4000 repair was necessary (a new edgebander costs over $50,000).

Ninety percent of Student Survey respondents noted ratings of “Very Good” or “Excellent” when asked about eight aspects of the equipment. The lowest scores were on the number of machines available and the time needed for repairs.

h. Technology

The program incorporates new technology primarily in the form of CNC woodworking, which has been a large and growing part of the woodworking industry for 15-20 years. Equipment and software related to this technology are in place in the CNC and computer labs. Outside of these labs, technology does not play much of a role. One exception is the replacement of the ten table saws in the shop with new saws in 2010. The new saws incorporate “flesh-sensing” technology; when a finger or other body part comes in contact with the spinning blade, the blade immediately stops and drops below the table.
1. External Agencies

External agencies have a limited role in the department, although it is expected that the Woodwork Career Alliance will play a much bigger role in the future. See section 2.d. for details.

2. Instructional Improvement
   a. Evaluation of Teaching Effectiveness

Peer evaluation, student evaluations, discussions at faculty/staff meetings, and the Program Review Student Survey are used to evaluate the quality of instruction. The peer evaluation process evaluates full-time and part-time faculty every three years, per the college guidelines. Anecdotal evidence is also used, as students tend to communicate to the full-time faculty how the part-timers are doing.

b. Assessment of Student Learning Outcomes

Student learning outcomes have been identified for all WMT courses. The SLOs are communicated to the instructors via the course outlines. The course outlines for all WMT classes are posted on a Woodworking Faculty TalonNet site, of which all WMT faculty are members.

Almost all classes, with the exception of WMT 101, are offered in only one section each semester. Those classes utilize the indirect method of assessing SLOs, where the students self-assess using web-based input. In WMT 101, the instructors use a standard rubric for SLO assessment. The rubric was developed with input from the instructors and full-time faculty and consists of a grading form for assessing one of the required projects. Discussion between the instructors ensures a degree of consistency.

Teaching practices, for the most part, have been on target as determined from the SLO assessments, although some changes have been made. In areas where changes were necessary, most of them involved adding written instructions to augment lecture/demonstration presentations. In many instances, students get behind on projects and aren’t able to use the lecture/demo information until a week or two after it is presented. In those cases, a written procedure is very helpful in maintaining student success. The program is also considering posting videos of common procedures on YouTube. A “Cerritos College Woodworking” account/channel has been created and several videos have already been uploaded for the WMT 183 course.

As stated previously, course outlines are posted on the Woodworking Faculty TalonNet site. In addition, for some classes, previous course syllabi, handouts, and reference information are also posted. Instructors are encouraged to use these resources in order to ensure consistency between classes. Discussions, informal and at faculty/staff meetings, are also used.

In addition, all faculty are instructed to post their syllabi on the TalonNet site for their class and add the department chair as an instructor/participant. This was recently instituted in the Fall
2013 semester, with most instructors in compliance. The plan was for the department chair to review the syllabi, but that has yet to happen due to time limitations.

c. Course Grading and Retention Patterns

Overall, success and retention rates in the department are high, 85.1% and 90.3%, respectively. These numbers are both about 3% higher than the Technology Division average. Compared to the California state numbers for woodworking, WMT’s success rate is higher by .5% and the retention rate is lower by 3.1%. Both WMT rates are flat or moving higher relative to the last few years. See the appendix for details.

As previously stated in section 1.b., success and completion rates by race show lower rates for Blacks and Hispanic/Latino students. At this time, no specific changes have been identified to remedy this situation.

d. Course and Program Completion

<table>
<thead>
<tr>
<th>WMT Program Awards</th>
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<tbody>
<tr>
<td>Year</td>
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<tr>
<td>-------</td>
</tr>
<tr>
<td>2008/2009</td>
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<td>2009/2010</td>
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<td>2011/2012</td>
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<td>2012/2013</td>
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WMT Program awards (degrees and certificates) have been roughly flat over the last five years, with a dramatic increase last year from an average of about seven per year to 16. The number has historically been low for the following reasons:

- Life-long learners are more interested in taking classes that appeal to them, instead of earning a (or another) degree
- Students who are interested in entering the woodworking industry often find jobs before they complete all the award requirements
- The industry has no specific education requirements and therefore most companies do not require a certificate or degree for employment

The large increase last year was due to efforts in which students who were close to an award were identified and informed of their situation. Many had the requisite courses but were not aware of the application process. Others were one class away from an award, and then enrolled in the remaining class in the spring. Efforts like this will continue in the future.

There is a national effort underway to remedy the lack of industry skill requirements. The Woodwork Career Alliance (WCA) was formed in (approximately) 2010; their goal is the development of industry-approved standards for tool skills and evaluations, “to meet the need for skilled woodworkers in an increasingly competitive global market.” (WCA website, www.woodworkcareer.org)
Both full-time instructors are certified WCA Evaluators, and the WMT Department became an education member of the WCA in 2013. Also that year, eight students signed on to the WCA program, funded by the WMT Foundation account. The plan is for the students to earn, at a minimum, the assessment credits necessary to obtain the first level credential, the Sawblade Award. As part of the program's WCA Education Membership, participating students receive $100 credit towards this certification.

e. Program Outcomes

Tracking students who exit the program has been a challenge. Since most are life-long learners, tracking is a non-issue. However, tracking those who enter industry is a priority. To date, it has been accomplished by students self-reporting and anecdotal evidence. Since the program started keeping records in 1998, at least 94 students have gone on to work in some capacity in industry. The number is probably much higher due to the lack of good tracking information.

f. Core Indicators

Core indicators for TOP Code 0952.00 are as follows:

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<td>Core 1 Skill Attainment</td>
<td>99.53</td>
<td>99.48</td>
<td>99.12</td>
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<td>Core 2 Completion</td>
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<td>52.63</td>
<td>56.60</td>
<td>50.98</td>
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<td>Core 3 Persistence</td>
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<td>85.57</td>
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<td>82.35</td>
<td>80.90</td>
<td>83.10</td>
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<td>Core 4 Employment</td>
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<td>58.14</td>
<td>55.81</td>
<td>62.55</td>
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<td>Core 5a Participation</td>
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<tr>
<td>Core 5b Completion</td>
<td>7.14</td>
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<td>20.00</td>
<td>0.00</td>
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<td>13.04</td>
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</table>

Interpretation of these numbers is a challenge, due to various factors. Life-long learners (defined as those who already have a certificate or degree) are not counted in Core 2 through Core 5b. Many of the remaining students are not interested in a program award (for reasons cited elsewhere) and therefore leave the program without one (Core 2). To be counted as employed for Core 4, a person must be covered by California Unemployment Insurance; students who go on to self-employment do not qualify for that and are therefore not counted. For Core 5a and 5b, the numbers change dramatically year to year due to the small number of women in the program who are not life-long learners.

With the aforementioned in mind, the program meets the Core 1 goal and is close to the Core 3 goal. It is well under the goals for Core 2 Completion, Core 4 Employment, Core 5a Participation (of women), and Core 5b Completion (of women).
Core 2 Completion and Core 4 Employment are the largest concerns and may indicate weakness particularly on the cabinetmaking side of the program, where students are most likely to seek employment. It would be interesting to see the data if broken down by major.

As students start earning WCA certifications, it is unclear how or if they will be counted. The Core 2 cohort includes “industry-recognized credentials.”

g. Student Feedback

The Program Review Student Survey was administered during the Fall 2013 semester. Students enrolled in WMT courses, as well as those enrolled within the previous two years, were asked to take the online survey. The request was sent via a Constant Contact email to over 1600 recipients, along with in-class announcements. The survey and its results are provided in the appendix and through-out this report. Because the survey was voluntary, it appears that respondents were skewed towards longer-term students (older, life-long learners). New students seemed less likely to take the time to complete the survey.

Data of interest not covered elsewhere includes:

- Eighty percent of respondents rated how the reputation of the program affected their decision to enroll as “Very Much” or “A Lot”
- Twenty-two of 26 respondents currently working in industry stated that their woodworking education at Cerritos College helped them get their job
- Forty-six percent of students travel 20 miles or more to attend classes; 18 percent travel over 30 miles (One recent graduate lives in Lake Arrowhead)
- With one exception, every respondent would recommend the program to others (99.6%)
- As previously stated, when asked about the greatest strength of the department, most respondents listed the instructors or instruction. Others listed the emphasis on safety and equipment availability.
- The lack of course repeatability will have a significant effect on half of WMT students. In the open-ended question regarding the greatest weakness of the program, this was the number one issue mentioned.
- Other items listed as the greatest weakness include: reduced course offerings due to budget cuts, shortage of lab time to complete projects, lack of weekend classes, and lack of aides in all classes
- Open-ended feedback included comments like this: “The woodworking program at Cerritos College is truly an exceptional program. It offers a unique opportunity to students who are interested in all realms of woodworking. To have classes that emphasize anything from hand tool woodworking to CNC woodworking is a testament of the commitment of the faculty and staff.” - (Current student, 24-29 yrs old, BA/BS degree). See the appendix for additional comments of note.
h. Institutional Data

<table>
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<tr>
<th>Semester</th>
<th>Enrollment</th>
<th>FTES</th>
<th>WSCH</th>
<th>FTIE</th>
<th>Efficiency</th>
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<td>Fall 2008</td>
<td>483</td>
<td>104.69</td>
<td>3176</td>
<td>8.5</td>
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<td>Spring 2009</td>
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<td>112.21</td>
<td>3356</td>
<td>7.9</td>
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<td>Fall 2009</td>
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<td>3395</td>
<td>7.1</td>
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<td>3131</td>
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<td>2923</td>
<td>7.24</td>
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<tr>
<td>Spring 2011</td>
<td>436</td>
<td>96.90</td>
<td>2882</td>
<td>7.36</td>
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<td>2703</td>
<td>6.44</td>
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<td>423</td>
<td>94.72</td>
<td>2804</td>
<td>7.35</td>
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<td>Fall 2012</td>
<td>387</td>
<td>84.30</td>
<td>2533</td>
<td>6.00</td>
<td>422</td>
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<tr>
<td>Spring 2013</td>
<td>413</td>
<td>89.85</td>
<td>2704</td>
<td>6.86</td>
<td>394</td>
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</table>

Department enrollment has dropped steadily since 2008, as budget cuts have forced courses to be eliminated. Enrollment has dropped about 20% during that time. All other counts have dropped similarly. Enrollment in the spring is consistently higher than the fall, as the department has typically offered two more courses in the spring than in the fall. That discrepancy was a result of unplanned course cancellations and the resultant effect on the following year's course offerings. For the last three years, 17 courses have been offered in fall and 19 in spring.

Efficiency has stayed relatively constant; the average is 411 over the last five years. It is usually higher in fall, when the fewer number of courses tend to be fuller than in the spring. Offering 18 classes in both fall and spring would be a desirable change.

The 411 efficiency number compares with the Technology Division average of 394 and the college average of 510. Based on the current enrollment limit of 24 in WMT classes (due to safety reasons and resource availability), there is no expectation that the number can be increased much.

3. Strengths and Weaknesses of the Program

a. Strengths

Reputation for Excellence

As evidenced by the strong responses in the Student Survey regarding why students chose the program, how often they would recommend it to others, and positive comments in the open-ended questions, the WMT program has an excellent reputation in the community. At woodworking shows, woodworking stores, and woodworking facilities, the response to introducing oneself as a part of the program is almost always, “I hear you have a great program.”

The program also enjoys a good reputation on campus for the numerous projects completed in the Production class.
Excellent Safety Record

The WMT program has an excellent safety record. No student has ever suffered serious injury—loss of digits, etc.—in the WMT shop. This is a remarkable achievement given the number of students working with potentially dangerous equipment.

Facilities

As stated previously, WMT occupies a well-equipped facility, and students agree. However, minor repairs and cosmetic improvements are in order to maintain a first-rate work environment.

High student satisfaction

Student attitudes and feedback in the Student Survey were overwhelmingly positive. WMT enjoys a community of students unlike other programs. Students regularly demonstrate support for the program by donating time and energy to department activities and projects. They volunteer to staff trade show booths, help with special programs, and work on facility improvement projects within the WMT labs, offices, and elsewhere on campus.

Articulation Agreements

WMT now has several articulation agreements with local high schools. A number of other schools have inquired about developing agreements; WMT will move forward with those schools now that the development process is clear.

An ongoing department goal is to engage schools with active woodworking programs and create articulation agreements with them. This will have a positive impact on enrollment and program awards in WMT. It will also have a positive effect on the high school programs: their instructors will have an opportunity to look at WMT practices and safety programs that will benefit the high school students too. In addition, high school woodworking programs are more appealing if students and parents realize that high school work can reduce college requirements for certificates or degrees.

Teacher Trac

The Cerritos College Teacher Trac program has been working with WMT and other Career Technical Education departments to increase the number of woodworking students entering CTE teaching. Faculty members are working closely with Teacher Trac to identify and develop interested students. An increase in the number of teachers available and able to teach woodworking at the high school level will have a dramatic effect on the Los Angeles woodworking community: more instructors means fewer cancelled high school programs, which means increased enrollment in WMT and other CTE schools. This in turn will lead to greater opportunities for woodworking employment in LA-area jobs.

Active Advisory Committee

The WMT Advisory Committee has been very supportive of the program, regularly contributing their expertise and counseling in program direction, curriculum, and equipment selection.
Web Presence

About ten years ago, search engine optimization (SEO) efforts took place to better place the WMT program in web searches for woodworking courses in the Los Angeles area. As a result of this, almost 20% of students surveyed indicated they found the program via a web search or reference to the program on a website.

b. Weaknesses

Lack of a Full-time Cabinetmaking Instructor

Despite the positive reviews of faculty in the Student Survey, WMT desperately needs another full-time faculty member with cabinetmaking and CNC experience. WMT part-time instructors are uniformly excellent, but their part-time assignments excuse them from many of the administrative expectations placed on full-time faculty. As a result, a large portion of program administrative and organizational duties fall to the full-time faculty, reducing their own opportunities to focus on their teaching activities and program initiatives. As a result of having no full-time cabinetmaking faculty member, WMT is hampered in its ability to recruit students and produce course completions and program awards.

Shortage of Repair Funds

Due to the increasing age of the WMT machinery and equipment, major repairs are becoming more frequent. A $10,000 increase to the WMT budget in the future is strongly recommended. The budget is currently $29,979.

Potential Loss of Adult Hourly Instructional Aides

Instructional aides are an integral part of courses in which students are using potentially dangerous equipment for the first time (WMT 101, 151, and 159). All aides are adult hourly employees, the hiring of who may be eliminated at any time due to budget constraints, etc. Hiring a full-time classified employee to work as an instructional aide would resolve this potentially serious degradation of safety in the lab. When not working as an aide, the employee could help out in other ways in the department or division. Total instructional aide hours average about 25 per week.

Inconsistent Course Materials

A number of courses in WMT are taught by more than one instructor. In some classes, the syllabus, schedule, course materials, and handouts are shared by the instructors teaching the class, resulting in consistent delivery between classes. Other classes, however, do not benefit from this consistency. This can, at times, result in students not receiving the required instruction or attaining all the skills set out in the course outline.

Facilities

Several ongoing problems in WMT instructional facilities compromise teaching activities:

Classroom seating in bench labs (WD-12, WD-13, and WD-14), and the classroom (WD-15) is a mix of old, uncomfortable chairs and stools. Insufficient seating exists, and many chairs and stools are broken.
The WMT 107 Wood Finishing class performs classroom work in WD-12 and lab work in the WMT spray booth. The spray booth doesn't provide adequate space for all students; therefore many students must stand outside during hands-on demonstrations and activities. A roof or shade structure over the outdoor space is needed to protect students and projects from direct sunlight.

Building Signage

The WMT building is almost certainly the only building on campus that has no signage indicating the building or program name.

4. Opportunities and Threats

a. Opportunities

Employment Opportunities

The local job market appears to be improving. For the last couple of years, woodworking employment opportunities presented to the department have been on the rise. This, plus reported improvements in the housing market are an indication of future opportunities for WMT students. Many students enter the woodworking field in response to these postings or go into business for themselves. One recent example is Josh Dzcewski, who found work with Hile Furniture, a custom furniture and cabinet company in Pasadena. About eight graduates are teaching woodworking at local middle or high schools.

A plan to better serve industry with qualified applicants is in the works, in which students seeking work identify themselves in writing to the program.

Maker Culture

In the last few years, the percentage of students age 24 and younger has almost doubled. These numbers may be illustrating the impact of social media on the movement toward hands-on and creative activities. The “maker movement,” Make Magazine, and Maker Faire events are all evidence of this growing trend.

Under the topic “Maker culture” in Wikipedia, the following is found, “The maker culture is a contemporary culture or subculture representing a technology-based extension of DIY [do-it-yourself] culture. Typical interests enjoyed by the maker culture include engineering-oriented pursuits such as electronics, robotics, 3-D printing, and the use of CNC tools, as well as more traditional activities such as metalworking, woodworking, and traditional arts and crafts. The subculture stresses new and unique applications of technologies, and encourages invention and prototyping. There is a strong focus on using and learning practical skills and applying them creatively.”

WCA Skill Standards

The Woodwork Career Alliance provides the WMT program with an opportunity to be at the forefront of a new and industry-leading program. At the end of the Spring 2014 semester, WMT may be the first school on the west coast to have certificated members of the
organization. It is hoped this will help promote the benefits of industry-approved certifications for the first time in the woodworking industry.

b. Threats

Jobs Moving Overseas

A large number of jobs in the woodworking industry have gone overseas, primarily in the area of production furniture-making. Production cabinetmaking jobs have also moved offshore, although not to the same extent. While this does decrease the demand for woodworking education to some extent, we believe it has a minimal impact on the department at this time, since the lost jobs are for relatively low-skilled workers. Highly trained graduates of the WMT program are overqualified for such jobs and would not consider them as a viable alternative to working for or starting a custom shop.

Lack of Student Preparation

The completion rate, while rising, is below the state average. The best explanation for this appears to be the lack of dedication of students in our introductory classes, particularly WMT 101. The average completion rate for those classes is much lower than other classes. Many students enrolling in WMT 101 don’t realize the commitment necessary to complete the class. In the recent Student Survey, 15% of respondents said they enrolled in classes because they were "Curious about woodworking" or "Just needed a class and woodworking was open." The number is probably higher than 15%, due to intro students being under-represented in the survey.

Lack of Campus Support

Despite the high visibility of the program on the campus, real support for the program and the Technology Division in general appears to be lacking. This was most evident in the Fall 2013 new-faculty nomination process. Woodworking, despite a passionate presentation by Anthony Fortner, rated 22 of 24 in priority for a new full-time faculty member. The MTT Department, after rating #1 in priority, had their position withdrawn by the administration.
5. Accomplishment of Previous Goals

The 2006 WMT Program Review described four goals. The status of those goals is as follows:

Student Project Storage Building – Abandoned. The goal was to build an outbuilding, for which a pad was created in 2000 in the area just west of the WD building. The current project storage area inside the building is adequate for the department’s needs at this time, primarily due to the decrease in enrollment imposed over the last five years. In addition, the outbuilding would have been difficult to access in wet weather, and the pad built in 2000 is smaller in area than the current project storage area inside the building.

Demonstration Lab – Accomplished. In 2007, funds were allocated to this project and the lab was outfitted and completed. The lab has been put to good use in that demonstrations are held in a separate, relatively quiet area of the woodworking lab.

Nested-Base Router – Accomplished. In 2010, funds were allocated to purchase and install a nested base router, which is used for CNC instruction in several classes. Further use of the router is anticipated as the more of the CNC curriculum is put in place.

Full-Time Cabinetmaking Instructor – No change; this still remains a goal.
6. Goals of the Program

<table>
<thead>
<tr>
<th>Goals</th>
<th>Action to be taken</th>
<th>Timeframe</th>
<th>Person Assigned</th>
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<tbody>
<tr>
<td><strong>Mid-range goals (next 3 years)</strong></td>
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<tr>
<td>1. Develop a strategy to convince the administration to hire a full-time cabinetmaking instructor</td>
<td>a. Submit and present justification for hire to Planning &amp; Budget Committee (info already exists)</td>
<td>Every year until hire</td>
<td>Carl Stammerjohn, Anthony Fortner</td>
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<td>2. Create CNC Woodworking program option</td>
<td>a. Complete New Credit Program form b. Submit to Carl Bengston c. Follow up as necessary to facilitate necessary approvals</td>
<td>November 2014</td>
<td>Carl Stammerjohn, Jeff O'Dell</td>
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<tr>
<td>3. Create Woodworking Essentials program option</td>
<td>a. Complete New Credit Program form b. Submit to Carl Bengston c. Follow up as necessary to facilitate necessary approvals</td>
<td>November 2014</td>
<td>Carl Stammerjohn</td>
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<td>4. Increase the number of program awards to at least 12 per year</td>
<td>a. Using data from IT, identify students close to obtaining awards b. Contact those students to inform them of their situation and how they can apply for awards c. Using posters in WMT labs, announcements in classes, and email, make all students aware of the importance of obtaining awards</td>
<td>May 2014 and ongoing</td>
<td>Carl Stammerjohn, Anthony Fortner</td>
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<td>5. Increase number of WCA industry certifications to at least six per year</td>
<td>a. Identify students most likely to benefit from WCA program (those planning to seek work) b. Persuade them to sign up c. Perform assessments</td>
<td>April 2014 for current participants, and ongoing</td>
<td>Carl Stammerjohn, Anthony Fortner</td>
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<td>6. Develop a strategy to convince the dean &amp; administration that WMT needs classified lab assistant support</td>
<td>a. Submit justification to dean to convert adult hourly budget to two 19-hour classified positions b. If approved, submit employment req c. Hire classified lab assistants</td>
<td>Fall 2014 and annually until approval</td>
<td>Carl Stammerjohn</td>
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<td>7. Develop a strategy to convince the dean and administration that the WMT operating budget be increased to $40K</td>
<td>a. Provide dean with backup info justifying increase</td>
<td>Spring 2014 and annually until approved</td>
<td>Carl Stammerjohn</td>
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<td>8. Increase the number of job placements to at least six per year</td>
<td>a. Create database of local employers b. Inform employers of WMT's placement program and the benefit of hiring WMT students c. Gather information from students seeking jobs (using existing system) d. Match students with jobs as requests are received</td>
<td>May 2015</td>
<td>Carl Stammerjohn</td>
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</table>
| 9. | Post instructional videos on WMT YouTube channel, at least six each for WMT 101, 102, 103, and 151 | a. Shoot video of common procedures  
b. Edit as necessary  
c. Post on WMT YouTube channel  
d. Post links on TalonNet to videos | Fall 2015 | Carl Stammerjohn |
| --- | --- | --- | --- | --- |
| 10. | Develop a strategy to convince the dean & administration to fund a spray booth shade structure | a. Obtain quote for shade structure  
b. Include request & justification in Unit Plan  
c. Contract installation if approved | Fall 2015 and annually until approved | Anthony Fortner |
| 11. | Develop a strategy to convince the dean and administration that the WD building needs signage | a. Find documentation for signage requirements  
b. Obtain quote for signage  
c. Include request & justification in Unit Plan  
d. Contract installation if approved | Fall 2015 and annually until approved | Carl Stammerjohn |
| 12. | Develop a strategy to convince the dean and administration that room WD-14 needs a projector and screen | a. Obtain quote for parts & labor  
b. Include request & justification in Unit Plan  
c. Contract installation if approved | Fall 2015 and annually until approved | Carl Stammerjohn |
| 13. | Develop a strategy to convince the dean & administration that WD-1 should be upgraded to Smart Classroom standards | a. Obtain quote for parts & labor  
b. Include request & justification in Unit Plan  
c. Contract installation if approved | Fall 2015 and annually until approved | Carl Stammerjohn |
| 14. | Develop a strategy to convince the dean & administration that the WMT compressor should be replaced | a. Obtain quote for compressor replacement  
b. Include request & justification in Unit Plan  
c. Contract installation if approved | Fall 2015 and annually until approved | Carl Stammerjohn |
| 15. | Develop a strategy to convince the dean & administration that the WMT edgebander needs replacing | a. Obtain quote for edgebander  
b. Include request & justification in Unit Plan  
c. Contract installation if approved | Fall 2015 and annually until approved | Carl Stammerjohn |
| 16. | Develop a strategy to convince the dean & administration that the beam saw should be refurbished | a. Obtain quote for beam saw refurbishment  
b. Include request & justification in Unit Plan  
c. Contract refurb if approved | Fall 2015 and annually until approved | Carl Stammerjohn |
| 17. | Further improve the depth and consistency of instruction | a. Generate standardized course materials for WMT 101, 102, 103, 151, 153  
b. Post on WMT Faculty TalonNet site | Spring 2016 | Carl Stammerjohn, Anthony Fortner |

**Long-term goals (3+ years)**

| 18. | Increase Core Indicator 2 level each year by at least 5% until state goal is reached (completion estimate 2019) | a. Identify cohorts using data from Research & Planning  
b. Convince cohorts of the importance of earning awards | Fall 2015 and ongoing | Carl Stammerjohn |