

**College of the Redwoods
Drafting Technology Advisory Committee
Agenda**

Wednesday May 12
4:00-5:00 PM
Eureka Main Campus Room AT105 (CAD lab classroom)

1. Welcome and introductions – Cat Ory
2. Program update: ACCJC, ATMAE, Curriculum, Equipment – Steve Brown
3. Review of Program/Course Outcomes/Goals – Cat/Steve
4. Review of Graduate Survey – Steve
5. Industry and employment trends – committee recommendations for program – Cat
6. Announcements

**College of the Redwoods
Drafting Technology Advisory Committee
Minutes**

Wednesday May 12, 2015
4:00-5:00 PM
Eureka Main Campus Room AT105 (CAD lab classroom)

Attendees:

CR: Steve Brown, Professor, Drafting Technology and Engineering
Paul Kinsey, Professor, Drafting Technology and Woodworking
Mike Peterson, Professor, Manufacturing Technology
Marla Gleave, Dean, CTE

Industry: Cat Ory, CleekCo (Chair of Advisory Committee)
Sean Stewart, LACO
John Ash, JAG Architects
Will Madaras, Wallace & Hinz

K-12: Dave Stevens, Eureka High School

1. Welcome and introductions – Cat Ory introduced herself as the Chair of the Committee and invited everyone to introduce themselves.
2. Program update: ACCJC, ATMAE, Curriculum, Equipment – Steve Brown reviewed the current non-sanctioned ACCJC status for CR. He also announced the successful accreditation visit by the ATMAE visiting team and thanked the committee for their help during that process. The Drafting program was reaccredited by ATMAE at their November 2014 meeting and the program must submit a report in two years outlining how it is addressing the concerns of the visiting team. The concerns surrounded the need for additional assessment data from employers regarding the programs outcomes. The members received an outline of the ATMAE standards found in partial compliance. Steve said the college is working on updating the survey process to address the issue. Also, Marla indicated the college is part of a statewide consortium that is collecting data from employers.

Steve indicated the college is still waiting for approval of the curriculum changes and name change from the Chancellor's Office so the changes approved last year have not yet been implemented.

Steve reported that the program was able to acquire a new Objet 30 Pro 3D printer using state and federal grant money. The old Zcorp printer was used in trade for the new printer. The members were invited to view the new 3D printer following the meeting.

The remodel of the lab with new carpet is complete – the new carpet came as a result of information provided during the program review process.

3. Review of Program/Course Outcomes/Goals – Cat/Steve

The members received the course and program level outcomes for the program. At the previous meeting, members requested information about how the course outcomes related to the overall program outcomes. Steve presented this information to the committee and requested that they review the outcomes and report back any time regarding any concerns, additions, or deletions. There were no concerns expressed at the time of the meeting.

4. Review of Graduate Survey – Steve

The members received the results of the most recent graduate survey. The sample size was small so there were no statistically significant findings. However, comments from the survey indicated favorable reactions from the graduates. The survey results do not prompt any program changes.

5. Industry and employment trends – committee recommendations for program – Cat

Cat asked the members to reports on industry and employment trends from their perspective.

- A common theme was the need for drafters to versatile with Revit and SketchUp.
- Clients want 3D drawings.
- Perhaps offer SketchUp through Community Ed or Non Credit
- Continued need for manual sketching to convey ideas rapidly, especially in the field.
- Use PDF to distribute drawings rather than native format.
- 3D is used more and more for construction documents.
- Humboldt County should explore creating an employment base for contracted services. Firms rely on contracted services and are increasingly dissatisfied with quality of overseas work.
- Can CR offer Revit special topics courses, such as quick reviews of certain tools (roofs, creation of families, etc)
- Skill in animation emerging as need.
- Teach project management tools
- Civil 3D and other civil software needs to be taught.
- Students need to understand that industry needs quick turnaround on projects.

6. Announcements

Steve and Cat thanked everyone for their attendance and participation.

Adjourned: 5:15

ATMAE Accreditation Report for Drafting Technology

The ATMAE Board of Accreditation reaffirmed the accreditation of the Drafting Technology program at its November 2014 hearings. The college will be required to submit a report after two years to show progress on meeting the standards found to be in partial compliance.

16 out of 19 standards were found to be in compliance. 3 standards were in partial compliance. There were no non-compliant standards.

Standards in partial compliance:

7.14 Job Advancement of Graduates: The advancement of graduates within organizations shall be tracked on a regular basis (two to five years) to ensure promotion to positions of increasing responsibility. Summary data shall be available for the job advancement of graduates.

The college is surveying graduates and is planning to continue this practice on a regular basis. There was just not enough information about job advancement.

7.15 Employer Satisfaction with Job Performance: Employer satisfaction with the job performance of graduates shall be tracked on a regular basis (two to five years) including employer attitudes related to the importance of the specific competencies identified for the program. Summary data shall be available showing employer satisfaction with the job performance of graduates.

The advisory committees are being surveyed to determine satisfaction with graduate job performance. The visiting team is, in addition, looking for a broader survey of all employers.

7.19 Outcome Measures Used to Improve Program: Evidence shall be presented showing how multiple outcome measures for example (Graduate Satisfaction with Program/Option, Employment of Graduates, Job Advancement of Graduates, Employer Satisfaction with Job Performance, Graduate Success in Advanced Programs, Student Success in Passing Certification Exams, and Advisory Committee Approval of Program) have been used to improve the overall program/option (please use the attached table 7.19). Evidence that program stakeholders participate in this process must be demonstrated.

While surveys of Graduate Satisfaction and Advisory Committee Approval of some programs were provided, not enough measures are being implemented to provide data for program improvement.

Drafting and 3D Modeling

Course Level Outcomes (CLO) and Mapping to Program Level Outcomes (PLO)

Program Level Outcomes - Drafting and 3D Modeling, Associate of Science

1. Produce industry standard design documentation using Computer Aided Drafting and technical sketching with an emphasis on architectural, civil design, and mechanical applications.
2. Develop design concepts, renderings, and models with consideration for aesthetics, cost, methods of construction and/or manufacturing and common industrial practices.
3. Use common business communication tools such as the internet, MS Office, written reports, and oral presentations.
4. Analyze/interpret/present technological concepts, creative expression, resources, & data.

(Mapping to PLOs shown in parenthesis after each CLO)

DT23 CLO

1. Develop orthographic projections, isometrics, obliques, and perspective pictorial representations of designs using CAD and sketching. (1,3,4)
2. Present engineering drawings using current industry standard documentation and annotation techniques. (1,3,4)
3. Define terminology related to engineering graphics. (1)
4. Prepare a professional portfolio.(3,4)

DT25 CLO

1. Create, Modify, and plot 2D technical drawings per industry standards. (1,3,4)
2. Effectively utilize CAD software to improve drafting productivity. (1)
3. Present a professional portfolio. (3,4)

DT50 CLO

1. Apply CAD software to create 3D CAD models and technical drawings using wireframe, surface, solid, and feature-based parametric techniques. (1,2,3,4)
2. Utilize software processes to create photorealistic renderings of a 3D model. (2)
3. Create physical prototypes of a design using rapid prototyping. (2)

4. Prepare a professional portfolio. (3,4)

DT60 CLO

1. Apply mechanical CAD software to develop 3D parametric solid models and assemblies. (1,2,3,4)
2. Apply mechanical CAD software to create industry standard orthographic, section, auxiliary, and assembly model documentation per industry standards. (1,2,3,4)
3. Develop concept model output using 3D printers. (2)
4. Analyze a mechanical design in terms of tolerances, form, function, and mass properties. (4)

DT71 CLO

1. Demonstrate knowledge of architecture and architectural drafting techniques. (1,3,4)
2. Use CAD software to create 3D building information models (BIM) with consideration for common building practices, applicable codes, and CAD standards. (1,2,4)
3. Research, document and present various aspects of architecture. (3,4)

DT73 CLO

1. Prepare proposal drawings for a single family residence.
2. Use CAD software to create 3D building information models (BIM) for site analysis and a complete set of working drawings for a single family residence. (1,3,4)
3. Analyze a BIM model in terms of form and function, with consideration for common building practices, applicable codes, and drafting standards. (1,2,3,4)
4. Prepare a professional portfolio. (3,4)

DT80 CLO

1. Apply industry standard software to create 3D models, lighting systems, materials, and cameras. (1,2)
2. Prepare still and animated renderings. (2)
3. Define terminology associated with the modeling and animation industry. (3,4)

CTE Outcome Survey 2014 Drafting Technology		Respondents	8
Primary Reason attended CR	Earn certificate/degree and transfer Earn certificate/degree but not transfer Earn transfer units Take classes to update job skills or renew a license/permit Take classes for self-enrichment only	25% 25% 0% 13% 38%	
Satisfaction with education and training at CR	Very Satisfied Satisfied Neither satisfied nor dissatisfied	50% 50% 0%	
Please explain the main reason you were satisfied or dissatisfied with your education and training	<p>Good staffing</p> <p>great teachers and a good job</p> <p>I was able to immediately enter the work force after receiving my degree; however, I wish I had been better prepared.</p> <p>it provided skills that interphere with your personl life</p> <p>they did not offer it at the university and was something that would help with getting empolymnt.</p> <p>Excellent instructors, engaging classes! Good equipment, modern, up to date.</p> <p>I was satisfied with the drafting technology teaching with the exception of DT-73 Architectural drafting. Apparently CR had not secured a lot that the class might go and survey, which I thought was an integral component of the training. I also thought the plan selection for the design competition was skewed to favor a returning student in the class that actually won the design review.</p> <p>Outstanding teachers</p>		
Most frequently cited reason for taking as many classes at CR as in the past	I completed the program I got a job		
What did you do after completing coursework?	Obtained journey-level status in same field	4 students	
Certificate or licenses	LSIT certificate Certificate of Achievement in Civil Design/Drafting	1 student 2 students	
Current employment status	Self-Employed Employed at one job Employed at more than one job Unemployed, seeking employment Unemployed, not seeking employment	13% 63% 13% 0% 13%	
If you are working, what is your current job title?	design engineer design, and mathamatical analysis		

	Drafter/ Office Manager Engineer of Operations Laborer Professor of Practice I run a small company called "Helping Hands Home Improvement"	
Did you engage in job search after finishing courses?	Yes, and I found a job Yes, and I still have not found a job No, I was already employed when I finished No, I was not looking for employment Not applicable as I am still pursuing studies	25% 13% 25% 38% 0%

Duration of job	Before CR	After CR
Full-time work	57%	71%
Part-time work (20 to 39 hours)	14%	14%
Part-time work (<20)	29%	14%

Hourly wage of job	Before CR	After CR
	Avg=23.50, Median=16.00	Avg. = 25.58, Median=25