

DRAFTING TECHNOLOGY
UNIVERSITY OF ALASKA FAIRBANKS
COLLEGE OF RURAL AND COMMUNITY DEVELOPMENT
TANANA VALLEY CAMPUS

PROGRAM REVIEW 2009-10

GALEN JOHNSON, PROGRAM COORDINATOR
GALEN JOHNSON & THANE MAGELKY, CONTRIBUTING WRITERS

JANUARY 2010

SUMMARY

I. Centrality of the program to the mission, needs, and purposes of the university and the unit (BOR);

A. Department/unit Mission

The primary mission of the Drafting Technology program is to “educate students” and to provide the Fairbanks Region with a current “state of the art” Drafting Program. Our mission is to provide a drafting program that addresses our State and Regional needs, while staying current and competitive on the national level. The primary goal of the Drafting Technology program is to provide individuals with quality academic, technical and professional skills required for entry-level employment in firms utilizing Computer Aided Drafting Skills (CADD). Graduates will be competent in the profession and obtain current skills in computer-aided drafting.

B. Contribution to Institutional Mission

The Drafting Technology program contributes to UAF’s Workforce and Place-Based Education mission providing quality vocational/technical/career training and education in response to the needs of individual students, industry partners and the diverse population of Alaska.

II. Educational Programs

A. List Programs Offered

- *DRT Certificate - Tanana Valley Campus*

B. Identify any similar program or programs elsewhere in the University of Alaska statewide system (BOR).

- *UAA’s CTC AET Certificate and AAS program served as a template for our recently proposed TVC DRT Certificate changes and a new AAS degree.*

C. Program Content, Organization, and Currency

The Drafting Technology Certificate program introduces students to the concept of drafting, first manual and later computer aided (CAD) along with general computer usage skills. Typical communications, computation and human relations course work is required along with a progression of CAD coursework: Beginning, Intermediate and Advanced (elective).

The (present) DRT Certificate program's previous association with TVC's Process Technology (PRT) AAS program (former DRT Coordinator Jon Prater was also PRT Coordinator) likely accounts for the inclusion of PRT Intro, Safety and Drafting courses in major DRT requirements and electives.

Changes proposed to the DRT Certificate along with the proposed new DRT AAS, will remove the PRT course requirements as they are more appropriate to PRT students and will allow additional DRT electives to be moved into the requirements category. Advanced CAD will become a mandatory requirement as will Blueprint Reading - renamed Construction Documents and Drawings with an expanded emphasis on additional relevant topics. The Computer Literacy course will be removed entirely, to make room for more DRT and CM courses as new students are increasingly better skilled on computer usage and those lacking this "prerequisite" will be advised to take a readily available preparatory course(s) outside of the DRT program requirements.

These (proposed) changes are intended to address present concerns with the DRT program's content, organization and currency received via Industry feedback on previous DRT graduates and discussions with the DRT Advisory Committee. A copy of the 2009 DRT Program Changes proposal accompanies this DRT Program Review to provide additional information on proposed changes to the DRT program.

D. Time to Certificate, Licensure or Degree

- 1. Assess whether the cycle of coursework in your programs is such that it allows students to complete their programs in a reasonable period? If not, what changes should be made?**

The DRT Cert is readily attainable in three semesters (not including summer). The "Fast-track" DRT Cert was advertized as being available in one calendar year due to special/mandatory summer courses scheduled during that time frame, but these are not presently offered.

The DRT AAS will be attainable in two academic years to a full-time student, but completion for part-time students may vary widely depending on their ability to take courses when they are available.

- 2. Summarize and assess the actual time to degree/certificate based on information available from Planning, Analysis and Institutional Research.**

No data is available.

E. Programmatic Use of Library and Information Resource

The DRT major requirements courses rely mainly on the program's computer equipment and software. They do not utilize UAF library or information resources to a significant extent.

F. Additional Questions for Graduate Programs

- 1. Identify any admission criteria that are not clearly stated in the catalog, e.g., a faculty member must be willing to mentor the applicant.**

Not Applicable.

- 2. Role of research institutes**

Not Applicable.

- 3. Interdisciplinary programs**

Not Applicable.

G. Continuing Education and Non-Credit Programs

Not Applicable

III. Quality of the Program, as determined by the establishment and regular assessment of program outcomes. Outcomes should be comprehensive, and indications of achievement should involve multiple measures and satisfy the properties of good evidence (BOR).

A. Instruction

a. Publishing Expected Outcomes

DRT student learning outcomes, dated 1999-2000, are posted at <http://www.uaf.edu/provost/outcomes/PlansHtmlFormat/DraftingTech.html>. A 2006-2007 version of DRT student learning outcomes is attached below and this information will be updated pending action on the proposed changes to the program.

b. Assessment Plans

See attached: CRCD/TVC - Certificate Drafting Technology - Student Outcomes Assessment Plan - Academic Year 2006-2007.

c. Outcomes Assessment Summary – Table 4.1

The writers of this report have only been associated with the Drafting Technology program since Fall 2008. We've reviewed some undated student evaluations but haven't located any other assessment information for this program review period.

d. Undergraduate Research, Creative Activity and Scholarship

- 1. Describe your program's systematic efforts to involve undergraduates in research, creative activity and scholarship. See <http://www.uaf.edu/research/studentsindex/database/> and http://ugres.gina.alaska.edu/project/list_year.**

Not Applicable.

- 2. Examples (two or three) of Undergraduate Research, Creative Activity and Scholarship**

Not Applicable.

e. Examples (two or three) of Graduate Research, Creative Activity and Scholarship

Not Applicable.

f. Graduate Employment Summary

We have not located employment information from the program review period, but we are aware of a few DRT graduates presently working for a couple of local professional design firms.

B. Research, Creative Activity and Scholarship (if no tripartite faculty, skip this section)

Not Applicable.

C. Service

a. Service Summary – refer to annual unit plans – Table 4.7

As previously noted, the DRT coordinator and the single full-time DRT faculty member were first involved with the DRT program in 2008-2009. The effectiveness of the program's faculty service activities prior to that time are not readily available. Current service activities are intended to maintain networking connections with, and enhance our understanding of,

the local industry's present and future requirements for drafting technicians and technologists

b. Faculty Service Highlights

- *Johnson: Greater Fairbanks Community Hospital Foundation Board trustee and Construction Committee member. Alaska Society of Professional Engineers, Fairbanks president.*
- *Magelky: Fairbanks North Star Borough Elementary School Principal Selection Committee. TVC Master Planning Workshop, reviewed and provided recommendations.*

D. Additional Departmental Policies

None

IV. Demand for program services, as indicated by measures such as: credit hour production appropriate to the program's mission, services performed by the program in support of other programs, graduates produced, the prospective market for graduates, expressed need by clientele in the service area, documented needs of the state and/or nation for specific knowledge, data, or analysis, other documented need (BOR);

- A. Trend in Student Credit Hour Production:** *DRT student credit hours peaked at 960 in 2007, likely as a result of a two year "Fast-Track" program which offered free tuition and provided summer courses to allow completion of a DRT Certificate within one year, but the Fall & Spring semester numbers remained in 2009.*
- B. Retention:** *I was unable to determine student retention from the data.*
- C. Support of Other Programs and the Core Curriculum:** *I am unaware of any services performed by the DRT program in support of other programs and/or the Core curriculum.*
- D. Trend in Number of Graduates:** *The number of DRT Certificate graduates peaked during the two years of the Fast-Track (free tuition) program period and then dropped back to previous numbers the following year.*
- E. Prospective Market for Graduates:** *I am not familiar with the prospective market for DRT Certificate graduates for most of the 2004-2009 program review period, but our new full-time faculty member, Thane Magelky has recent experience in the local professional design sector (including HR hiring interviews for prospective employees for the firm) which provides unique insight into local prospects. Proposed changes to the DRT program and some DRT courses are aimed at improving the prospects for future DRT graduates.*

- F. Continuing Education and Non-Credit Programs:** *The previous DRT coordinator has taught a Piping and Instrumentation Drawing (P&ID) short course during the summer for the local Plumbers & Pipe Fitters Labor Union. We encourage individual course enrollment, at an appropriate level, of non-degree seeking students who are looking to develop new or improve existing computer aided drafting (CAD) skills.*

V. Resources and Capacity

A. Faculty Qualifications and Numbers

1. Faculty Profile – Table 4.2:

The Drafting Technology program has two full-time faculty at TVC; Galen Johnson and Thane Magelky. Adjunct Instructors teach several DRT courses, some are working in fields which require computer aided drawing (CAD) skills. Mr. Magelky is an architectural design professional who recently worked for a local design firm and participated in their HR department's recruitment and evaluation of potential drafting technologists. His experience provides unique insights for the DRT program's focus on course content and various instructor expertise.

2. **Faculty Locations –** *TVC's DRT faculty are located in Fairbanks, information on instructors who taught DRT courses at rural campus locations has been requested. Mr. Magelky recently submitted an A.A.S. degree proposal for the DRT program and is reviewing learning objectives which will be communicated to all DRT faculty and instructors.*

3. **Faculty Evaluation Summary – Table 4.3:** *All fulltime faculty are reviewed annually via annual activities report. No faculty have gone up for promotion and tenure.*

4. Additional Departmental Evaluation of Instruction

Fulltime faculty frequently discuss teaching issues, but no outside assessment has been done.

5. Evaluation of Instructors, Part-time Faculty and Teaching Assistants

Adjunct's teaching effectiveness have been discussed with the instructors and "checked" via random, informal discussions with students.

6. Instructional Summary – Table 4.4

With only two fulltime faculty, the DRT program utilizes many adjunct instructors, ideally taking advantage of their respective profession/employment

to provide current applications to the basic course content. The distribution of DRT courses is driven largely by Mr. Magelky's evaluation of the available adjuncts and their suitability to teach specific courses.

7. Faculty Development – Table 4.5

Our fulltime CAD faculty member reviews various training resources and opportunities with an emphasis on keeping “current” on the continuously upgrading CAD software and also on learning new technologies, such as Building Information Modeling (BIM), and determining their appropriateness to the DRT program curriculum.

B. Staff

The DRT program previously shared an administrative assistant with the Culinary and Process Technology programs at Hutch, but now shares an administrative assistant, Lizette Fonte, with the CM and CIOS programs which are all located in the TVC Downtown Center. IT, Fiscal, HR, student services, etc are all provided by the TVC staff at the Tanana Valley Campus Center. Recent increased DRT student use of the DTC CAD lab will require a TA or similar DRT tutor for some portion of the lab's hours.

C. External Advisory Board(s)

The DRT Community Advisory Committee is comprised of industry technicians and design professionals who work in and in many cases, employ drafting technicians. Some committee members are prior students and others adjunct instructors in the DRT program. We will continue to consult these and other qualified persons, individually and collectively, for evaluation of graduates when possible and check the currency of course content, including the instructional hardware and software.

D. Student Support Resources

1. Academic Advising

Thane Magelky handles most of the DRT student advising due to his professional architectural training and career background. Galen Johnson also advises DRT students regarding course sequencing and elective CM courses. Additional advising may be done by the TVC Student Assistance Center. All advisors maintain currency on University policies and procedures through information updates from the Student assistance center.

2. Co-curricular Activities

There are no presently no DRT specific co-curricular activities.

E. Library and Information Resources

1. Access to Resources

DRT students access most required resources online or occasionally from supplemental information provided by course instructors.

2. Training Opportunities

Minimal, if any, training is provided for access to library resources, however the University does offer training through the Library.

F. Program revenue and expenditures (BOR) – Table 4.8

G. Physical and Technical Infrastructure

1. Equipment Condition and Adequacy

The personal computers, monitors and peripherals in the TVC Downtown Center (DTC) belong to UAF/TVC and are relatively new. The equipment in the Hutchison High School belongs to and is shared with the North Star Borough School District. All Equipment presently meets the needs of the DRT program.

2. Condition and Adequacy of Facilities

The TVC Downtown Center building is an old building and occasionally experiences problems with heating & ventilating, but UAF Maintenance has been fairly responsive to our requests for service. The Hutchison High School building is recently renovated and well maintained by the local school district. The DRT and CM programs plan to move to the TVCC facility when funds are secured to provide additional space.

3. Technical Infrastructure

The computer software and internet connectivity at both TVC sites is adequate for the present and foreseeable future DRT program needs. TVC's and FNSBSD's maintenance of the DTC and Hutch infrastructure, respectively, is reasonably good.

4. Technology Training

The TVC IT crew provides adequate training for instructors and the instructors train the students. We are aware that additional training opportunities exist through UAF Office of Information technology.

H. Capacity

The twenty work stations in each of the Hutch and DTC classroom (40 total) are presently adequate. Multiple sections of courses are offered to accommodate anticipated enrollments.

VI. Assess program productivity and efficiency as indicated by courses, student credit hours, sponsored proposals and service achievements produced in comparison to the number of faculty and staff and the costs of program support (BOR).

The Dean and Provost must provide the assessment above to the Board of Regents for each program. Please provide information on why the program may have unusually high or low productivity or efficiency for each of the areas below:

A. Assess productivity (SCH, graduates) and efficiency (per FTE faculty) of instruction; compare to UA in Review for 2009 UAF direct student to regular faculty ratio of 9.2.

The spike in DRT numbers during the two year Fast-Track program (06-08) may skew efficiency calculations. The Construction Management (CM) program, started in the Fall of 2006, shares the two fulltime DRT faculty and all other DRT courses are presently taught with adjunct instructors.

B. Assess productivity (publications, sponsored research, creative exhibits or products) and efficiency (per FTE faculty) of research, creative activity and scholarship

Not Applicable

C. As a department/unit identify the major areas of service activities and accomplishments. Compare typical faculty service to the typical workload assignment in your unit.

All faculty have 1 part (20%) of workload as service.

VII. Mission Fulfillment, Adaptation, and Sustainability

A. Mission Fulfillment

Information on the success of previous DRT program graduates is not readily available, but our current goals for the program are to provide basic training needs for career-track drafting technicians and local citizens desiring varying levels of competency in the use of computer aided drafting (CAD) software and equipment.

B. Departmental self-analysis

1. Departmental strengths

The DRT program's renewed commitment to improve our graduate's employability by focusing on the industry's needs and continuing to adjust DRT curriculum and utilize currently practicing professionals as adjunct instructors.

2. Departmental weaknesses

The changes in program coordinator and fulltime faculty personnel during the period of this review likely compromised some of the efficiencies that come with continuity. We propose to change Mr. Magelky's position from term to tenure track to insure better continuity.

3. Departmental needs

The DRT program presently purchases new versions of software as it becomes available and replaces computer equipment as necessary to properly run current software.

C. Adaptation and Sustainability

The design and construction industries' rapid assimilation of a fairly new and complex outgrowth of computer aided design and drafting; Building Information Management (BIM), has designers, builders and managers at all levels of industry scrambling to catch up. Mr. Magelky recently attended a BIM in Education seminar as the DRT program attempts to define an achievable role in provide instruction in this newly required skill.

D. Future Goals - Please state no more than three major goals for your department.

- 1. Goal:** *Improve program quality continuity by changing Mr. Magelky's position from Term to Tenure Track.*
- 2. Goal:** *Change the existing DRT Certificate course requirements and add an AAS degree with new courses to the program.*
- 3. Goal:** *Respond (appropriately) to industry's need for Building Information Management (BIM) training.*

VIII. TABLES

Include completed Tables 4.1 through 4.8

IX. APPENDICES

- 1. The program review process requires a copy of the vita of each full-time faculty member from his or her most recent annual activity report. See appendix A**

- 2. Student Learning Outcomes Assessment Plans for each certificate, undergraduate, and graduate degree program. See appendix B**

- 3. Most recent specialized accreditation evaluation reports. *N/A***

Appendix A**Curriculum Vitae****Galen R. Johnson**

Tanana Valley Campus
University of Alaska Fairbanks
604 Barnette Street
Fairbanks, Alaska 99701
(907) 455-2846
Cell: 590-8531
Fax 455-2935
gjohns55@alaska.edu

EMPLOYMENT HISTORY

University of Alaska Fairbanks/Tanana Valley Campus, 2006 - Present
Coordinator, Assistant Professor: Construction Management and Drafting Technology Programs

Doyon Properties Inc., 2009 – Present,
Senior Construction Project Manager (part-time)

GHEMM Company Inc., 1975 - 2005
Partner, Vice President, Senior Project Manager - General Construction Contractor

EDUCATION

M.S. Engineering Management, University of Alaska Fairbanks, 2002
B.S. Civil Engineering, University of Alaska Fairbanks, 1979
Engineering, Moorhead State University, Moorhead, Minnesota 1973-1975

PROFESSIONAL QUALIFICATIONS

Alaska Registered Professional Civil Engineer #7446, 1987
Alaska Residential Contractor Endorsement – License #733

AWARDS

ASPE Professional Engineer of the Year 2008
ASPE Young Engineer of the Year 1989

PROFESSIONAL MEMBERSHIPS/SERVICE

American Society of Civil Engineers, Alaska - Past Fairbanks Section President and State President
National Society of Professional Engineers - Fairbanks President, past Alaska PEC Governor

UNIVERSITY SERVICE

UAF College of Engineering and Mines (CEM), Community Advisory Committee
UAF CEM Construction Management Graduate Certificate program formation participant
UAF TVC Strategic Planning Committee
UAF TVC Academic Council and CRCD Academic Council, CTT Division Chair

TEACHING EXPERIENCE 2006 – PRESENT

Methods of Building Construction (CM 102)
Codes and Standards (CM 123)
Mechanical and Electrical Technology (CM F142)
Building Construction Cost Estimating (CM F163)
Construction Project Management (CM F201)
Project Planning and Scheduling (CM F202)
Structural Technology (CM F231)
Construction Management Internship (CM F299)

COMMUNITY SERVICE

Greater Fairbanks Community Hospital Foundation, Trustee
Greater Fairbanks Community Hospital Foundation, Construction Committee
LEGO Robotics Competition, Volunteer Judge
MATHCOUNTS Competition, Volunteer coordinator & amateur photographer
Love INC, Volunteer firewood and food box preparation and delivery

MEMBERSHIPS/AFFILIATIONS

Associated General Contractors of Alaska, (*UAF student chapter president 1977*)
Project Management Institute, Alaska Chapter
American Institute of Steel Construction
Associated Schools of Construction
International Code Council
Construction Specification Institute
University of Alaska Fairbanks Alumni Association
Alaska Airman's Association – Licensed Private Pilot

Curriculum Vitae**Thane Magelky, Assoc. AIA, LEED AP**

Tanana Valley Campus

University of Alaska Fairbanks

Fairbanks, Alaska 99701

907-455-2845

temagelky@alaska.edu

**Professional
Experience:****RISE Alaska**

2008 – 2009

Construction Manager

Boreal Symmetry

2007 – Present

Owner, Residential Design, Consulting

Charles Bettisworth and Company

1998 - 2007

Project Manager, Project Architect, Firm Management Team – Human Resource Manager

**Teaching
Experience:****The University Of Alaska**

Codes and Standards – CM F123 – Spring 2009

Mechanical and Electrical Technology – CM F142 – Spring 2009

Advanced AutoCAD – DRT F270 – Spring 2009

Introduction to GIS – DRT F112 – Fall 2008

Construction Means and Methods – CM F102 – Fall 2008

Beginning Drafting – Spring 1998

Education:**University of Oklahoma****Architecture****1993 –Present****GPA- 3.71****Okla. City Comm. College****ACAD****1996****GPA- 4.00****South Dakota SM&T****Mech. Eng.****1991-1992****GPA- 2.63****Illinois Inst. of Technology****Aero. Eng.****1990-1991****GPA- 3.23****Relevant
Training:**

USGBC/ABSN

The Business Case for Green Building

January 30, 2007

PSMJ

Strategic Planning Sessions

April 12-13, 2006

PSMJ

From PM to Principal Bootcamp

March 10-11, 2006

PSMJ

CEO Ownership Transition Roundtable

August 22-25, 2005

USGBC

Beginning and Intermediate LEED

2002

ICBO

2000 Building Code Seminar

2002

ADA

American Disabilities Act Seminar

2000

OSU

Architectural Rendering

1996

Memberships:	American Institute of Architects (AIA) – Associate Member United States Green Building Council- Alaska Chapter
Community Service:	Principal Selection Committee – Nordale Elementary 2009 International Code Council 2008-2009 United States Green Building Council- Alaska Chapter 2004-2007 Founding member and Fairbanks Chair UAF Sustainable Living and Earth Day Fair 2007 Presented on LEED/Green Building University of Alaska- Sustainable Campus Initiative 2004-2005 Steering Committee Denali Greening Workshop 2004 Presented on LEED/Green Building AIA Alaska State Convention 2004 Presented on LEED/Green Building Cold Climate Housing and Research Center Workshop 2003 Presented on LEED/Green Building
University Service:	Drafting Technology Community Advisory Committee 2009 Drafting Technology AAS Proposal Exploration 2009 Tanana Valley Campus Master Planning 2008
Professional Honors:	Fairbanks International Airport, State of Alaska, Fairbanks, Alaska 2009 Honor Award, Alaska Chapter American Institute of Architects March 2010 Architectural Record Valerie A. Larson Family Resource Center, Bristol Bay Native Association, Dillingham, Alaska <i>2004 Merit Award, Alaska Chapter American Institute of Architects</i> <i>2004 Len Mackler Award, CEFPI, Alaska</i> <i>2005 Award for Educational Design Excellence, CEFPI, Pacific-Northwest</i> <i>April 2006 Architectural Record Review</i> On-site review - Issue 14- 2005 <i>“Northern site issues” article published.</i> Charles Bettisworth Office Building, 212 Front Street, Fairbanks, Alaska <i>2003 Merit Award, Alaska Chapter American Institute of Architects</i>