

Format 3A

New Occupational Endorsement

Occupational Endorsement
Entry Level Welder

Submitted by
Diesel, Heavy Equipment and Welding
Tanana Valley Campus
College of Rural and Community Development
University of Alaska Fairbanks

FORMAT 3A

Submit original with signatures + 4 copies

NEW OCCUPATIONAL ENDORSEMENT REQUEST

(UA Regulation 10.04.02)

I. Cover Memorandum

A. Name of person preparing request

Brian Rencher
Program Coordinator
Diesel/Heavy Equipment and Welding
UAF/CRCO/TVC
3750 Geist Road, Room 147
Fairbanks, Ak 99775-8080
Phone: 907-455-2843
Email: ffbkr@uaf.edu

B. Brief statement of the proposed endorsement, industry objectives and abbreviated student learning outcomes assessment and implementation plan.

1. Statement of the proposed endorsement

The proposed Occupational Endorsement for “Entry Level Welder” will be available upon the successful completion of the following courses:

WMT F103, Welding I Fundamentals and Safety, 3 credits
WMT F105, Welding II Basic Welding, 3 credits
WMT F130, Shielded Metal Arc Welding, 3 credits
TTCH F131, Mathematics for the Trades, 3 credits
WMT F160, Gas Metal Arc Welding, 3 credits
WMT F140, Metal Fabrication, 3 credits
WMT F290, Welding Proficiency, 3 credits
Total required credits: 21

Upon completion of the above course work students will be ready for entry level welding positions in Alaska’s construction and mining industries, and/or will have gained basic training in welding and fabrication to assist them with union or other USDOL registered apprenticeships. Students from rural Alaska who plan to return and weld in their home communities will have gained a skill base which, if combined with some training in operating a small business, will provide an excellent opportunity for Village entrepreneurship.

2. Industry Objectives

The construction and mining industries in Alaska are both undergoing expansion, and welding skills are required in a wide variety of areas from heavy equipment repair to the building and maintenance of mines and other industrial facilities. In addition, there are employment opportunities that require welding skills in the petroleum industry, aircraft repair, river-boat and barge repair and maintenance, commercial and residential construction, transportation, and even some small scale light manufacturing. If welders want to work in other areas of the state opportunities expand to include the pulp industry, fish processing industry, ship building, and harbor maintenance work.

3. Student learning outcomes assessment and implementation plan

<u>Intended Outcomes</u>	<u>Assessment Criteria and procedures</u>	<u>Implementation</u>
1. Students will pass all classes with a “C” or better. 2. Students should be capable of passing American Welding society plate welding certification test after completion of classes. 3. Students will gain employment or admission into a trade apprenticeship.	1. Classroom assignments, both practical and written. 2. Welding certification test will be administered on request by testing personnel. 3. Annual survey after completion of Welding Endorsement, used to track employment success/further training.	1. Instructors will monitor students’ progress and advise students of their progress, provided extra assistance if needed. 2. Welding test results are generally available within 24 hours depending on the type of testing procedure. 3. The Welding Dept. will prepare the survey ready for use after the endorsement is instated and welders have completed the program.

4. Review signature of preparation

As per attached

Brett Helms	Date
Plumber and Pipefitters Local 375, Apprenticeship Coordinator	
TVC Welding Advisory Council Representative	

As per attached

Missy Lizotte	Date
Alaska Department of Labor, State Representative and Apprenticeship Specialist	
TVC Welding Advisory Council Representative	

As Per Attached

Brian Rencher, Coordinator	Date
UAF Tanana Valley Campus, Collage of Rural and Community Development	
Diesel/Heavy Equipment and Welding Materials Technology	

As Per Attached

Bernice Joseph/Jennifer Carroll	Date
Vice Chancellor, Collage of Rural and Community Development	

As Per Attached

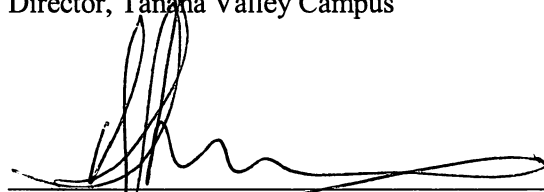
Linda Curda	Date
Associate Professor, Collage of Rural and Community Development, Academic Council	

Signatures for approval:

As per attached

Rick Caulfield
Director, Tanana Valley Campus

Date



11/13/2008

Falk Huebmann / Amber Thomas
Curricular Affairs Committee Chair, UAF Faculty Senate

Date



12/03/08

Marsha Sousa
President, UAF Faculty Senate

Date



12/4/08

Brian Rogers
Interim Chancellor, UAF

Date

II. Identification of the Endorsement (All pages should be numbered.)

A. Description of the Occupational Endorsement

1. Occupational Endorsement title

Entry Level Welder

2. Admissions requirements and prerequisites

Students accepted into this occupational endorsement must:

- a. Document High School Diploma, GED or be 18 years of age or older (It is highly recommended that students obtain either a high school diploma or GED as this is an industry standard, required by most employers, and is a prerequisite for application to any union sponsored apprenticeship program.)
- b. Be in good physical condition, and be able to lift 40 lbs.
- c. Demonstrate sufficient math skills to attend TTCH F131.

3. Course descriptions of required catalog courses. (Endorsements use existing courses.)

WMT 103 3 Credits Welding I Fundamentals and Safety

Entry-level course in safety, basic oxyacetylene welding, arc welding and flame cutting. Attendance at first two classes is mandatory. Materials fee: (to be announced) offered Fall, Spring

WMT 105 3 Credits Welding II Basic Welding

Arc welding techniques and basic MIG and TIG welding. Attendance at first two classes is mandatory. Materials fee: \$275. (Prerequisite: WMT 103 or permission of instructor.) (3 + 0) Offered Fall, Spring

WMT 130 3 Credits Shielded Metal Arc Welding (SMAW)

All positions for multiple pass fillet welds. A maximum of 3 credits are awarded for successful completion of any of the four sections; 130A-Certif SMAW (1F); 130B-Certif SMAW (2F); 130C-Certif SMAW (3F); 130D-Certif SMAW (4F). Presented in competency-based manner. (1-3+0)

TTCH 131 3 Credits Mathematics for the Trades

Practical application of mathematics for industry and preparation for union apprenticeship, including arithmetic review, ratios and proportion, powers and roots, algebra, geometry and trigonometry. Mathematical applications of basic physics with reference to units of measurement, use of precision measuring tools, measurement of forces, temperature, fluids and electricity. (3 + 0) Offered As Demand Warrants

WMT 140 3 Credits Metal Fabrication

Metal fabrication done by hand and with the aid of equipment. Plan, layout, bend, form raw metal and fabricate metal projects. Attendance at the first two classes is mandatory. May be repeated four times for a maximum of six credits. Course fee: \$100 per credit. (Prerequisites: WMT 103, 105)

WMT 160 3 Credits Gas Metal Arc Welding (GMAW)

Prepares student to work with wire-feed processes. Gas metal arc welding focuses on ferrous and nonferrous metals welded in all positions. Attendance at first two classes is mandatory. (1.5+5.5) Offered As Demand Warrants. Materials Fee: (to be announced)

WMT 290 3 Credits Welding Proficiency Maintenance

Maintenance of a high degree of welding proficiency through practice of previously-learned processes. Review of safety procedures. Materials fee \$275. (Prerequisite: WMT 103, 105, 140 or permission of instructor.)

4. Requirements for the endorsement.

a. Proposed Catalog Layout

Welding and Materials Technology

Occupational Endorsement: Entry Level Welder

The combined courses required for the Entry level Welder Occupational Endorsement offers training needed to succeed in the structural welding industry and the American Welding Society testing, used as an industry standard, as well as the safety and mathematics used in this high demand occupation.

1. Complete the following courses:

WMT F103, Welding I Fundamentals and Safety, 3 credits

WMT F105, Welding II Basic Welding, 3 credits

WMT F130, Shielded Metal Arc Welding, 3 credits

TTCH F131, Mathematics for the trades, 3 credits

WMT F160, Gas Metal Arc Welding, 3 credits

WMT F140, Metal Fabrication, 3 credits

WMT F290, Welding Proficiency, 3 credits

b. One-year cycle of courses offered in Fairbanks

WMT 103, 105, 130, 140, 290 and TTCH 131 are offered every spring and fall semester.

WMT 160 will be offered every spring semester.

B. Endorsement Goals

1. Brief identification of objectives and subsequent means for their evaluation.

The Occupational Endorsement is intended to provide a program for individuals in either pursuing a primary career in welding or in a trade where the ability to weld is often required. The program will equip the student with the basic skills for entry level welding positions and the ability to pass required welding certification tests. The success of the program will be evaluated by tracking the numbers of program graduates who gain employment in the trade and/or continue training through apprenticeship programs or in-house training programs, and by surveying employers of graduates to ascertain the value of their training to the company.

2. Relationship of endorsement objectives to industry needs

The construction and manufacturing industries are experiencing shortages of skilled welders on a nationwide scale, and this shortage is reflected throughout Alaska. Welding can be extremely physically demanding and retirement or switching to other employment tends to occur at a lower median age than in other occupations. As young people become

more involved with technology fewer of them are choosing welding as a career, despite the prospects of good wages, and this has left employers searching to find personnel to fill their open positions. Taking one or two random welding classes is not sufficient to gain employment as a welder. Employers need entry level personnel with at least a minimum skill level sufficient to work safely and productively without constant supervision. It is not possible for new employees to ‘train on the job’ when a stringent minimum quality control standard must be met in every piece of work. The State of Alaska Department of Labor forecasts 15% growth in new construction jobs through 2012, and 1000 new workers will be needed each year to replace retirees and keep pace with demand. This Endorsement will provide employers with an assurance that the basic skills are in place for those positions that utilize welding.

3. Occupational/other competencies to be achieved

Students will successfully complete all the coursework in the Entry Level Welder Occupational Endorsement, and will be able to obtain at least one basic welding certification.

4. Relationship of courses to the endorsement objectives

In choosing the courses for the Entry Level Welder Occupational Endorsement the Department has picked those which, when taken as part of a recognized group, will provide all the skills required for an entry level position in the field. Course content is the result of input from welding professionals with many collective years of experience in the field whose backgrounds include supervision, management, and quality control, as well as hands-on welding.

C. Student Learning Outcomes Assessment Plan and identification of the individual (by position) who will be responsible for the direction of its implementation.

a. Student Learning Outcomes Assessment Plan.

Intended Outcomes

1. Students will pass all classes with a “C” or better.
2. Students will pass American Welding Society plate welding certification test after completion of classes.
3. Students will gain employment or admission into a trade apprenticeship.

Assessment Criteria and Procedures

1. Classroom assignments, both practical and written.
2. Welding certification test will be administered on request by testing personnel.
3. Annual survey during one year after completion of Welding Endorsement, used to track employment success/further training.

Implementation

1. Instructors will monitor student progress and advise students of their progress, providing extra assistance if needed.
2. Welding test results are generally available within 24 hours depending on the type of testing procedure.
3. The Welding Dept. will prepare the survey ready for use after the endorsement is instated and welders have completed the program.

b. Responsibility for implementation.

Responsibility for documentation will reside with the Welding and Materials Technology Program of Tanana Valley Campus. The Coordinator of the program, currently Brian Rencher will maintain responsibility for documentation and implementation. Records for all students will be maintained in the TVC Welding and Materials Technology office. Records maintained will include identification of students, records of courses taken and grades awarded, copies of welding test certification papers, and results of follow up surveys.

III. Personnel Directly Involved with Program

A. Instructional Staff.

To Be Announced, Assistant Professor/Instructor WMT 103, 105, 130, 140, 160, 290
Stephen Colby, Adjunct Instructor WMT 103, 105
Ken Conner, Adjunct Instructor WMT 103, 105
Brian Ellingson, Assistant Professor of Process Technology TTCH 131

B. Administrative, coordinating and classified staff.

Brian Rencher, Program Coordinator for Welding and Materials Technology
Oversee quality of program, maintain Student Outcome records, identify adjunct faculty, schedule classes, and Student Advisor

Kerey Cheap, Administrative Assistant
Department budget, ordering, student assistance, assist with adjunct contracts

IV. Enrollment Information

A. Projected enrollment

Welding and Materials Technology currently has between 60-80 students per year attending various classes. Because we do not currently have a certificate or degree program, projected enrollment is difficult to assess. We are currently at about our maximum for student enrolment. Approximately 1/3 of these students express a need for some type of letter of completion.

B. Method of determining survey methods and participants

Projections are based on our combined years of experience in the welding industry,

conversations with apprenticeship representatives and company managers. Statistics from Alaska Department of Labor were also considered.

C. Maximum enrollment which endorsement can accommodate (endorsement capacity)

Since we have a limited amount of space and equipment, we can expect our maximum enrollment in the endorsement program to be about 15-20 students per year. We have students from other programs that are required to take welding. Others use the courses for refresher or to learn a specific welding technique.

V. Need for Occupational Endorsement

A. Employment market needs:

The Alaska Department of Labor has projected growth in the construction industry of 15% through 2012. Estimated need is 1000 employees per year to replace retired workers, and keep up with growth. Other areas of industry which require skilled welders for maintenance and operations are also projecting steady growth including the oil and gas industry, mining, ship building and repair and fish processing. Welders are utilized in all areas of construction, plant O&M, and equipment repair. As industries expand and develop, the need for welders will increase, and employers will be forced to hire from outside the state if there are no qualified applicants. As long as there is industrial expansion in Alaska there will continue to be a requirement for competent welders.

VI. Other

Various unions around the state have expressed a need for competent welders. Some companies are implementing incentive programs to keep their welders working for them.

VII. Relation of Endorsement to other Programs within the System

Similar programs are offered at UAA and UAS. CRCDD has no other training facilities available, except for some generic welding courses offered in various villages which do not have the capacity to offer any type of endorsement, certificate or degree programs.

VIII. Implementation/Termination

A. Date of implementation

We will begin marketing the program as soon as it is approved with the first applicants expected in the Spring 2009 Semester.

B. Plans for recruiting students

Recruitment of students will begin immediately to ensure that interested students can take advantage of the Occupational Endorsement as soon as it is in place. Outreach will include (but not be limited to) contact with high schools throughout Interior and West/Northwestern Alaska, as well as Native organizations and communities across the state, and in Yukon Territory. The program will also be highlighted in rural newspapers that are circulated in Bush communities.

C. Plans for phasing out endorsement if it proves unsuccessful

Should the Entry Level Welder Endorsement be unsuccessful it will be canceled. All the courses required are already regularly offered to the general student population so the phasing out of the Endorsement could take place while allowing already enrolled students to complete unfinished coursework. It is unlikely that the need would arise to cancel this Endorsement since there is a continued steady demand for welders.

D. Assessment of the endorsement. (Include a Student Outcomes Assessment Plan.)

a. Student outcomes assessment plan

Intended Outcomes

1. Students will pass all classes with a “C” or better.
2. Students will pass American Welding Society plate welding certification test after completion of classes.
3. Students will gain employment or admission into a trade apprenticeship

Assessment Criteria and Procedures

1. Classroom assignments, both practical and written.
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3. Annual survey during one year after completion of Welding Endorsement, used to track employment success/further training.

Implementation

1. Will monitor student progress and advise students of their progress, provide extra assistance if needed.
2. Welding test results are generally available within 24 hours depending on the type of testing procedure.
3. The Welding Department will prepare the survey ready for use after the endorsement is instated and welders have completed the program.

b. Program review

Faculty will meet monthly throughout the academic year to review different aspects of the Endorsement course cluster and make recommendations as needed. Industry representatives will be invited to attend these meetings. A formal in-house review of the program will be scheduled for Spring 2010.

FAIRBANKS ALASKA AREA
**PLUMBERS AND PIPEFITTERS
JOINT APPRENTICESHIP COMMITTEE**
1978 BURGESS AVENUE • FAIRBANKS, ALASKA 99709-5518
PHONE: (907) 456-5989 • FAX (907) 456-5905
email: jatc375@acsalaska.net

August 29, 2008

Brian Rencher
Program Coordinator
Diesel/Heavy Equipment and Welding
UAF/TVC/CRCO
3750 Giest Road, Room 147
Fairbanks, AK. 99775-8080

Mr. Rencher,

I support the Welding Occupational Endorsement program promoted by UAF/TVC. I believe it will provide an opportunity for Alaskans to learn the entry level skills required in the construction and petroleum industry. There is currently a shortage of skilled welders in Alaska and the American Welding Society predicts that by 2010 there could be a shortage of 200,000 welders across the United States. As construction growth continues to expand in our State this training will benefit both employers and apprenticeship programs looking for entry level workers.

Sincerely,



Bret Helms
UA Local 375
JATC Director

STATE OF ALASKA
DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT
EMPLOYMENT SECURITY DIVISION

Sarah Palin, GOVERNOR

Fairbanks Job Center
675 7th Avenue
Fairbanks, AK 99701
PHONE: (907) 451-2891
FAX: (907) 451-2919

September 2, 2008

To Whom It May Concern:

I am writing in support of the organization of an Occupational Endorsement for the Welding program at UAF/TVC. In my professional opinion, putting this industry recommended Occupational Endorsement in place will serve to expand the Welding program while filling a long-term employment need in the Interior of Alaska and Statewide.

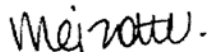
With the Alaska Gasline Inducement Act (AGIA) in the works and a natural gas pipeline on the horizon, the State of Alaska will again see the demand for highly skilled tradesmen which we experienced in the mid-seventies. Promoting a well trained Alaskan workforce that is ready to meet that demand is in the State's best interest. The Department of Labor's Research and Analysis Division has identified welding as one of Alaska's "top jobs" – those with higher than average wages and good job prospects, based on projected employment growth and the number of positions through 2012. With these facts in mind, a community advisory committee comprised of representatives from private sector businesses, union apprenticeship, education and the State Department of Labor & Workforce Development, highly recommend organizing the already available welding courses at TVC into an Occupational Endorsement.

Grant and scholarship funds such as PELL and SEOG require admission into a specific financial aid eligible certificate or degree program. Additionally, training funds administered through the State of Alaska under the Workforce Investment Act (WIA) require a student to be enrolled in a program which has been approved and is listed on the Eligible Training Providers List (ETPL) – a requisite of which is that a credential is earned at the completion of the program. With the absence of an endorsement, financial aid for welding training is, at best, limited.

The inception of a welding occupational endorsement will allow students, who couldn't otherwise afford to go to college, the opportunity to participate in and complete a comprehensive entry-level program which will net them both a credential and the skills necessary to gain solid employment in a high-growth, high-demand industry.

Please feel free to contact me if you have any questions.

Sincerely,



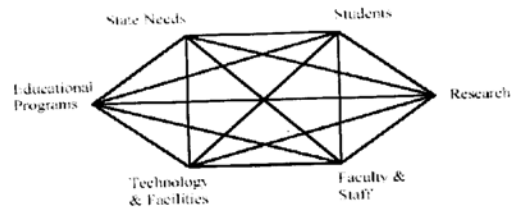
Missy Lizotte
Career Development Specialist II
Career Support & Training Services Unit

**University of Alaska Board of Regents
Program Approval Summary Form**

Requirements:

1. 2 pages or less
2. Must be a stand-alone document

MAU: University of Alaska Fairbanks
Title: Occupational Endorsement- "Entry Level Welder"
Target admission date: Fall 2008



How does the program relate to the Education mission of the University of Alaska and the MAU

***Who promoted the development of the program?**

The Welding Occupational Endorsement is being promoted by UAF/TVC, and the Welding and Materials Technology Department, in response to the need for a cluster of classes that would make students job ready for entry level welding positions. The University currently has no program in place to serve the needs of people in the community who seek these positions and the employers who want to fill them. A need was identified to provide a cohesive program that would allow hands-on welding career oriented individuals to bypass non-related academic subjects, and focus skills to make them employable.

***What process was followed in development of program (including internal and external consultation)?**

Welding and Materials Technology faculty met together and consulted with industry colleagues to ascertain the most valuable course content for the Endorsement. Course offerings for similar programs in other areas of the country were investigated for comparison, and input was gathered from industry professionals in the Interior. The following courses were chosen based on stated needs of employers for entry level skills:

WMT F103, Welding I Fundamentals and Safety
WMT F105, Welding II Basic Welding
WMT F130, Shielded Metal Arc Welding
TTCH 131, Mathematics for the trades
WMT 160, Gas Metal Arc Welding
WMT 140, Metal Fabrication
WMT 290, Welding Proficiency

***Impact on existing programs and units across MAU and system, including GERs.**

There will be no additional cost to the university in providing this endorsement, and no new faculty will be required. No other unit will be affected although it is possible that the Endorsement will result in increased enrollment in TTCH 131.

What state needs are met by this program

***Information describing program need and why existing programs in UA system are not able to meet it.**

There is currently no training program for individuals interested in welding as a career in the Fairbanks area, and employers frequently struggle to meet hiring needs. The State of Alaska Department of Labor economic forecast indicates a 15% growth in construction jobs through 2012, and need for 1000 new workers per year to replace retirees and keep pace with demand. It is in the best interests of the State to have a resident workforce ready to fill these positions so that employers do not have to look out of

state for personnel. The Endorsement will provide employers with assurance that Alaskan Employees are available with the basic skills to fill their open welding positions.

What are the Student opportunities and outcomes? Enrollment projections?

Welding positions come open in Fairbanks and the Interior year round. Some provide ongoing employment in fabrication and repair; others are shorter term positions on construction projects. These last are particularly well suited for Village residents who want to blend wage earning with traditional subsistence activities. There are a wide variety of occupations that require welding ability in addition to those already mentioned, including heavy equipment repair, mining operations and maintenance, power plant maintenance, railroad mechanic, etc. Graduating students have the option of looking immediately for an entry level welding position, or continuing training in other areas of construction and industry and combining that with their welding skill to obtain higher skilled employment. At the present time WMT enrollment is moderate; we anticipate an increase when we begin to offer a well guided track towards employment that will assist students to better reach career goals.

Describe Research opportunities:

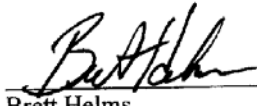
None. This is a workforce development vocational program.

Describe Fiscal Plan for development and implementation:

*Identify funding requirement, sources and plan to generate revenue and meet identified costs to include:

- Indirect costs to other units (e.g. GERs, distance delivery)
- Faculty and Staff
- Technology, Facilities and Equipment

All courses are currently being offered on the Fairbanks campus and no additional staff will be required. Technology, facilities and equipment are already in place. The department will take advantage of "free" sources of advertising for the Endorsement to the best extent possible, also working with local Department of Labor partners using word of mouth contacts, articles in rural newspapers, inter campus news, etc.

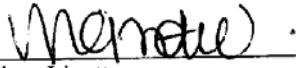


Brett Helms

Plumber and Pipefitters Local 375, Apprenticeship Coordinator
TVC Welding Advisory Council Representative

8/25/08

Date

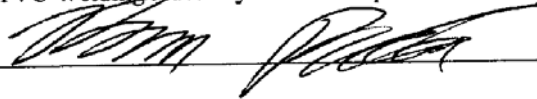


Missy Lizotte

Alaska Department of Labor, State Representative and Apprenticeship Specialist
TVC Welding Advisory Council Representative

8/26/08

Date

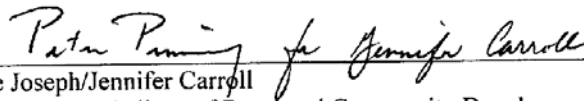


8-26-08

Brian Rencher, Coordinator

UAF Tanana Valley Campus, Collage of Rural and Community Development
Diesel/Heavy Equipment and Welding Materials Technology

Date



Bernice Joseph/Jennifer Carroll

Vice Chancellor, Collage of Rural and Community Development

9/8/08

Date



3. Student learning outcomes assessment and implementation plan

<u>Intended Outcomes</u>	<u>Assessment Criteria and procedures</u>	<u>Implementation</u>
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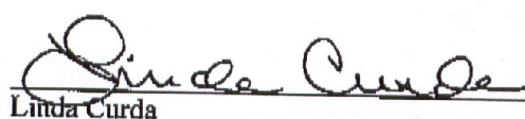
Brian Rencher, Coordinator
 UAF Tanana Valley Campus, Collage of Rural and Community Development
 Diesel/Heavy Equipment and Welding Materials Technology

Date

As Per Attached

Bernice Joseph/Jennifer Carroll
 Vice Chancellor, Collage of Rural and Community Development

Date


 Linda Curda

Associate Professor, Collage of Rural and Community Development, Academic Council

11/12/08
 Date


Rick Caulfield
Director, Tanana Valley Campus

09/27/08
Date