

**MINUTES**  
**WELDING TECHNOLOGY ADVISORY COMMITTEE MEETING**  
**October 12, 2010**  
**6:00 pm, Northland College – TRF**

The following committee members were present: Mike Lindholm, Ralph Williams, Jason Lee, Jeremy McDougall, Bryan Steiger, Adam Reese (current student), and Joel Ziegler.

- **Previous meeting minutes** – discussed; no changes necessary
- **New equipment**
  - Purchased 2 new Hypertherm 45 plasma torches with “Course in a Box” plasma curriculum per student input from last year about not having enough plasma cutting equipment (\$2970)
  - Purchased a gas mixer (Argon/CO2) to use for WELD 1130 and WELD 1102 (\$1330)
  - Ordered 2 new Invertec V350Pro Advanced Process Lincoln welders (\$10,200)
  - Have \$2459 remaining in equipment budget – open for suggestions
    - **Suggestions:**
      - Decided to acquire smoke eater for demonstration table (≈\$850)
      - Pipe preparation equip?? (see Curriculum Changes below)
- **Student surveys**
  - Students will be filling out a survey starting next week. I can forward the information to you if you would like.
- **Equipment updates – see above**
  - Motoman robot is sitting mostly idle – used for a couple of days for one course; occasionally used for demos. Value was estimated at about \$20K; what one could actually expect to get would be \$5-8K. Any thoughts regarding this machine would be appreciated – keep it, trade it, sell it.
- **Budget issues**
  - Welding program is good for this year; welding will not be looked at due to the good numbers last year, even though it is a duplicate program.
    - The sustainability document that is used to evaluate programs is included.
  - May not be the same next year – depends on what happens at the state level after the elections in November.

- **Curriculum Changes –**

- WELD 1131 – Joel admitted that it may contain too much FCAW welding. The group decided that it would be a benefit to them as employers if more spray/pulsed spray was utilized. Joel will make changes and forward them on for further review. (Welding assignments for Advanced GMAW are included for you to review.)
- Mike asked about the pipe welding course that was discussed at an earlier meeting. Joel said it hadn't gotten anywhere yet, but he will look into it and have more information for the Spring meeting in April.
  - Some of remaining equipment money could be used to purchase pipe preparation equipment – suggestions would be welcome.

- **Other concerns**

- Still bad stigma in the public eye thanks to previous instructors.
  - Student working in McIntosh got bad feedback from a customer at Cenex.
- One possible solution that worked for St. Cloud Tech welding program involved bringing High School Industrial Arts teachers in for welding workshops and offering CEU hours that they need for re-licensing. This may possibly be funded through 360MN – a consortium between Technical colleges and BSU. More information will be forwarded as it becomes available.
  - Possible topics would be: GMAW, SMAW, TIG, and OAW. Will survey high school teachers to see what they would be most interested in.

If there are any changes, please contact me ASAP.

Also, if you have any recommendations about what should be done with the Motoman robot, please contact me either by email: [joel.ziegler@northlandcollege.edu](mailto:joel.ziegler@northlandcollege.edu) or phone 218-683-8728 (office); 218-790-2969 (cell).

# WELD 1131: Ad GMAW

## Weld assignments

Solid wire - spray transfer	
1	<b>Flat position lap joint</b> Students will use the spray transfer method to weld a flat position lap joint on mild steel.
2	<b>Horizontal position lap joint - spray</b> Students will use the spray transfer method to weld a horizontal position lap joint on mild steel.
3	<b>Flat position v-groove spray transfer</b> Students will weld a flat position v-groove weld on 5/16" - 1/2" mild steel with a backing bar.
Flux core self shielded	
4	<b>flat t-joint</b>
5	<b>2F Self Shielded T</b>
6	<b>3F-U Self-shielded t joint</b>
7	<b>4F T Self-shielded</b>
8	<b>2G V-groove self-shielded backing</b>
9	<b>2G guided-bend</b>
10	<b>3G v-groove self-shielded with backing</b>
11	<b>4G v-groove self-shielded with backing</b>
Flux core dual shielded	
12	<b>flat position t-joint</b>
13	<b>Dual Shield 2F</b>
14	<b>3F-U Dual Shield</b>
15	<b>4F T Dual Shield</b>
16	<b>2G V-groove w-backing dual-shield</b>

17	<b>2G single V with backing guided bend; dual shield FCAW</b>
18	<b>3G U V-groove dual-shield</b>
19	<b>4G v-groove dual-shield backing</b>
Metal core	
20	<b>2 - 1F 1in. lap joints one stringer &amp; one weave</b>
21	<b>Horizontal T-joint - 5mm &amp; 10mm</b>
22	<b>flat position v-groove butt joint</b>
23	<b>horizontal v-groove with backing (Bonus)</b>
Aluminum wire feed	
24	<b>Aluminum stringer beads</b>
25	<b>2F lap Aluminum</b>
26	<b>2F T aluminum</b>
27	<b>vertical lap joint</b> Weld a vertical position lap joint on aluminum using either the spool gun or push-pull system
28	<b>vertical position t-joint</b> Weld a vertical position T-joint on aluminum using either the spool gun or push-pull system
Stainless Steel	
29	<b>horizontal lap joint short circuit</b>
30	<b>horizontal t-joint short circuit</b>
31	<b>Vertical up t-joint short circuit</b> Weld a vertical up T joint using the short circuit transfer method on stainless steel.
32	<b>vertical down t joint short circuit</b> Weld a vertical down T joint using the short circuit transfer method on stainless steel.

<b>33</b>	<b>overhead t-joint</b> Overhead stainless steel fillet on a t-joint using short-circuit transfer with tri-mix shielding gas.
<b>34</b>	<b>horizontal lap spray</b> Weld a horizontal lap joint using the spray transfer method on stainless steel.
<b>35</b>	<b>horizontal t joint spray transfer</b> Weld a horizontal T joint using the spray

	transfer method on stainless steel.
<b>36</b>	<b>vertical down t joint spray</b> Weld a vertical down T joint using the spray transfer method on stainless steel.



# Program Data Analysis

	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	Plus/Minus	
Welding-Manufacturing - TRF							09	10
Program FYE	9.53	6.24	12.33	9.30	9.72	23.95	-	+
Total FYE by Major			14.93	10.60	7.30	19.43		
Completion Ratio (1st yr-Grad) WELD1102	6	7	7	17 = 11	9 = 6	24 = 19		
Graduate/FTE	6.38	9.59	7.29	12.50	7.32	16.52	+	+
*Total Instruction Cost (not including facilities)	84,444	62,939	76,519	92,574	81,624	103,687		
Cost Ratio (FYE x \$4422/Instructional Total Cost) Greater than 1.0 means revenue exceeds expenditures.	0.45	0.40	0.64	0.56	0.53	1.02	-	+
Student FYE to Faculty FTE	10.14	8.55	12.84	14.74	11.71	20.83	+	+
Instructional Cost Study (College Avg/MnSCU Avg, # greater than 1 indicates more expensive than MnSCU average)	1.23	1.17	1.04	1.39	1.49		-	-
Percent Full by Section	44.00%	34.00%	54.70%	42.00%	30.20%	80.36%	-	+
							1/6	5/6
# of Sections	13.65	8.84	10.12	10	11.5	14		
Average Section Size	6.85	7.08	11.32	12.70	6.74			
College % Full	64.00%	64.00%	70.00%	63.00%	64.00%	73.50%		
Faculty FTE	0.94	0.73	0.96	0.88	0.83	1.15		
**Total Tuition Received (FYE x Tuition)	38,120	24,960	49,320	51,880	42,865	105,907		
***Fiscal Year Expenditures:								
Supplies					16,155	12,365		
Personnel					75,489	66,246		
Equipment					10,275	8,024		
Assessment & Review Plan is Complete (Y/N)			N	N	N	In Progress		
Employment Placement Rate/Continuing Education	100.00%	100.00%	100.00%	100.00%				
Job Demand (Resource: ISEEK):	The employment outlook for welders is expected to decrease 7.9% in Minnesota and increase 5.1% overall in the United States by 2019.							
Faculty FTE & Instructional Costs do not include non-instructional assignments.								
Faculty Comments:								

\*Total Instructional Cost is determined by the course CIP code.

\*\*Tuition = \$4422 in 2010, \$4410 in 2009, \$4000 in 2008; Health - \$5022 in 2010, \$5010 in 2009; Aviation - \$5493 in 2010

\*\*\*Fiscal Year Expenditures are derived from all cost centers related to the program.

All supporting data is available at the following password-protected website: Reporting Data Services Data Warehouse - link: <http://data.mnscu.edu/odshhtml/brio>. Data Analysis Reports from previous years along with instructions on reading this document and calculation explanations can be found in Virtual Office under Program Sustainability. In FY10 the process was slightly revised, affecting percent full rates and adding FY10 Expenditures. Contact Mary Jo Bydal or Shannon Nelson with questions.