

Helena College Academic Program Review

Year: 2021-22

Review: Metals Technology 2021-22

Author: McLaughlin, John

Status: Cabinet_Feedback

Section 1: Program Review

Credentials:

Description:

Mission Statement:

none

Mission Alignment:

The Metals Technology program aligns with the Helena College mission by providing high-quality education that leads to employment for our versatile student population.

Additional Comments:

Section 2: 5-Year Summary

Previous Recommendations:

Due to the fact that this is the first time this program has been reviewed there are no previous recommendations.

Annual Work Plans:

The Metals Technology program does not currently have a 5-year annual work plan summary to reflect on the last 3 years of annual work plan goals, including their status and alignment to the strategic plan.

Successes/Strengths:

The diversity of the Metals Technology program allows a student to gain employment in multiple fields nationwide. In addition a student is able to take an additional year of either welding or machining to specialize in either Industrial Welding and Metal Fabrication or CNC Machining.

Challenges:

Due to the ever changing needs of both the Welding and Machining industries, funding for materials as well as to keep current with industry standards equipment remains our strongest challenge.

Section 3: Student Learning

Credential Learning Outcomes:

Metals Technology AAS Outcomes:

1. Perform machining operations to exacting tolerances common in industry.
2. Prepare and demonstrate cutting tool applications.
3. Prepare, setup, and operate precision manufacturing equipment.
4. Interpret and create various blueprint types and information.
5. Apply proper techniques for analyzing and producing drawings
6. Demonstrate an understanding of welding processes, codes, and procedures
7. Differentiate manufacturing processes and their applicability
8. Enter the workforce with entry level skills
9. Exhibit good work ethic with an emphasis on safety and professionalism

Assessment:

File attachment (Copy of Metals Assessment Report) below.

Although Welding Technology outcomes have changed for the preparation of the new assessment process, we believe that the recent changes will not just clean up the number of outcomes but also make them measurable to show how assessment activities sufficiently demonstrate students' achievement of course and credential learning outcomes.

Curriculum/Assessment Changes:

As seen in the Assessment Report, Welding Technology has no records to report due to a complete overhaul of outcomes due to the required assessment changes that have just been approved by ASCR for the 2021-2022 academic year. Welding Technology outcomes do not reflect any changes that needed to be made due to assessment and mapping activities for either Welding Technology or Metals Technology. Outcomes were changed in preparation of the new assessment process.

Section 4: Alignment with Community Needs

Community Partnerships:

Advisory Board:

Section 5: Data Review

Enrollment/Annual Average FTE:

The Metals Technology program enrollment is overshadowed by the promotion of either Welding Technology or Manual Machining as separate units. From the Welding Technology side, when asked about knowledge of the Metals Technology program in either orientation or the first day of class, students usually respond with either they have zero knowledge of its existence, or how they can get more information on program. Enrollment is heavily dependent on the instructors providing the needed information to the interested students for them to make an informed decision on how the student proceeds with their education.

The Metals Technology program is a great auxiliary tool to have to help with enrollment when one of the programs (Welding Technology or Manual Machining) is struggling in the enrollment department or can act as an overflow when enrollment is high in either of these areas.

Retention:

Retention is kind of a tricky situation with the Metals Technology program. Due to a heavy increase for the need of CNC components in the Machining side of things, it has become more of an industry standard that Machinist have CNC knowledge to gain employment. However the majority of the time a student who is interested in the Metals Technology program usually completes an AAS in either (Industrial Welding and Metal Fabrication or CNC Machining) and then goes on to gain the other needed CAS to complete the Metals Technology program.

Instructors are no longer advisors and find it difficult to know which degree the student is seeking.

Degree/Certificate Production:

The Degree/Certificate production is also a tricky situation with the Metals Technology program. As stated before the majority of the time a student who is interested in the Metals Technology program usually completes an AAS in either (Industrial Welding and Metal Fabrication or CNC Machining) and then goes on to gain the other needed CAS to complete the Metals Technology program. This can result in "double counting" of enrollment/degree counting.

Market Analysis:

The advisory boards have always approved of the Metals Technology program, however from an employment standpoint most employers find it more beneficial that a student have the specialized training with an AAS in either (Industrial Welding and Metal Fabrication or CNC Machining), with the other component of the CAS to complete the Metals Technology program to be more of an auxiliary component that will aid in employment.

Financial Impact per FTE:

One of the greatest strengths of the Metals Technology Program is that it requires no additional funding to operate it as it is merely a combination of both 1st year programs (Welding Technology and Manual Machining) that have entirely separate operating budgets.

Other Comments:

Section 6: Resources

Faculty & Staff:

Professional Development:

John McLaughlin
CPR class
OEC class

Cody Torres
American Welding Society
Certified Associate Welding Inspector (Completed 2017)
Certified Welding Educator (Completed 2017)

Budget:

One of the greatest strengths of the Metals Technology Program is that it requires no additional funding to operate it as it is merely a combination of both 1st year programs (Welding Technology and Manual Machining) that have entirely separate operating budgets.

File attachment (Welding Budget/ Machining Budget) below.

Resource Needs:

Section 7: Recommendations

Rec #	Title	Recommendation
1	Temp Title	<p>Key Recommendation: 1. Metals Technology should be more broadly promoted to all welding and machining students in order to share the option/opportunity with students as well as inform students of the option to get an additional credential of an AAS.</p> <p>Rationale: By more widely promotion this program we can offer students more options and more credentials. This could also be detrimental to the second year enrollment of both of these programs and this should also be considered.</p> <p>Success Target: A target indicator could be to make sure that students who take both welding and machining get the extra AAS credential. If this program had high demand, it would be beneficial to have two additional instructors dedicated to this program specifically.</p> <p>Success Strategy:</p> <p>Success Resource: Having up to date equipment in both welding and machining which is very expensive can be a challenge. With the recent Covid funding both of these programs were recently able to upgrade machinery which was beneficial. Welding has recently added a program fee to build a fund for equipment replacement.</p> <p>Resp. Party: Metals Technology</p> <p>APRC Response: There was some concern about how valuable this degree is to students. We want to make sure we are providing useful degrees – both for student success and to maintain a good reputation with employers in the fields. The APRC recommends following up with employers in both fields to discuss the need for students with this particular degree. Given this concern, and the need to also consider impacts on second-year retention in the welding and machining programs, the APRC suggests the faculty consider repackaging the degree as an advanced metals technology degree, which would be composed of an AAS in CNC machining or welding and a CAS in the other field.</p> <p>Cabinet Feedback: After the research has been completed, pursue promotion this program as an option, rather than passively awarding to student.</p> <p>Recommendations: 1. Complete separate annual plan each year for Metals Tech. 2. Form Metals Tech advisory board. 3. Create advising materials to highlight the opportunities in all of the tracks – Welding, CNC Machining, and Metals Tech. 4. Ensure we are completing change of program forms so we can better track numbers of students in the program. Also, ensure we are auditing for program completion and awarding of degree when earned.</p>

Section 8: APRC Committee Proposed Determination & Rationale

APRC Proposed Determination:

Continue

APRC Rationale:

The current structure of this program makes it difficult to evaluate typical measures of program success, such as enrollment, retention, graduation rates, and financial impact per FTE. Students often do not enroll in Helena College intending to complete this degree, so numbers are low and inconsistent from one year to the next. The college awards fewer than 10 degrees in metals technology each year. However, the structure also allows for the college to run this program at no additional expense. The program review indicated that advisory board members don't often see the value of this credential on its own. Demand for manual machining (the first year of the CNC machining program and one half of the metals technology program) on its own is decreasing, though the skill is considered as asset when paired with a welding degree. Now that one-year certificates of applied science are available in both machining and welding, it may not be necessary to offer the degree. The committee feels strongly that a new advanced degree be considered. The college does not want to promote a degree to students if it does not help them achieve their career goals. Restructuring the degree to require an AAS in machining or metals and a CAS in the other field likely would not negatively impact the institution, though it would be more beneficial to students to offer a more marketable degree.

APRC Additional Feedback:

No additional feedback.

Section 9: Dean's Cabinet Feedback

Dean's Cabinet Approval of APRC Determination:

Approve APRC Determination

Overall Cabinet Feedback:

Section 10: Final Determination for BOR Report

Final Determination for BOR Report:

Continue

Supporting Rationale:

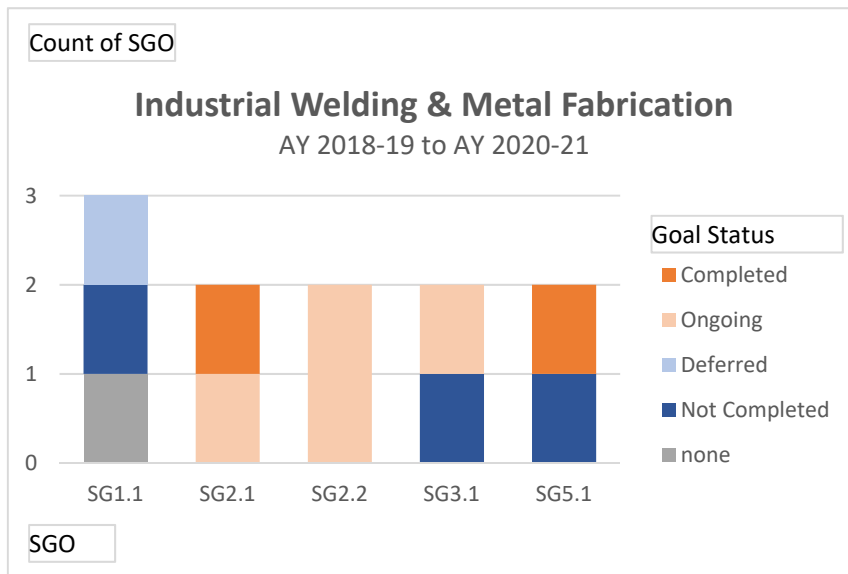
Here is the final rationale.

Attached Files

Attachment #	Attachment Title	Attachment URL
57	Data Summary	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=57
58	CT Program Review	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=58
59	Assess Matrix V1	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=59
61	Assess Matrix V1	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=61
62	ITP Curriculum Changes	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=62
63	Annual Work Plan 5-Year Summary	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=63
65	Assess Report	http://hc-curriculum.helenacollege.edu/ViewAttachment.aspx?id=65

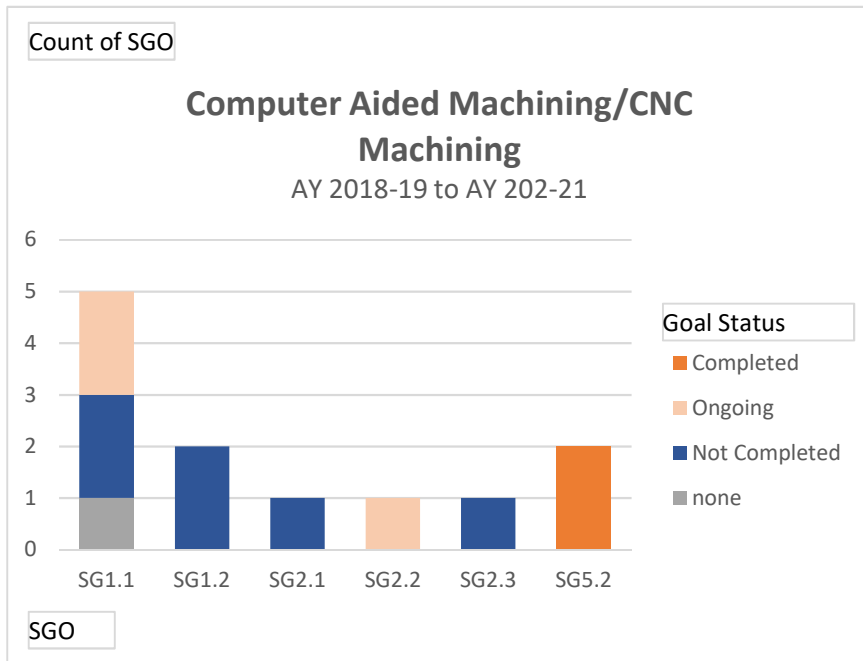
AWP 3-Year Summary IWMF 2018-2021

Count of SGO	Column Labels					Grand Total	
Row Labels	none	Not Completed	Deferred	Ongoing	Completed	Grand Total	
SG1.1		1	1	1		3	
SG2.1					1	1	2
SG2.2				2			2
SG3.1			1	1			2
SG5.1			1			1	2
Grand Total		1	3	1	4	2	11



AWP 3-Year Summary Machining 2018-2021

Count of SGO	Column Labels				
Row Labels	none	Not Completed	Ongoing	Completed	Grand Total
SG1.1		1	2	2	5
SG1.2			2		2
SG2.1			1		1
SG2.2				1	1
SG2.3			1		1
SG5.2				2	2
Grand Total		1	6	3	12



Area	Term	Course	Count Term Assessment	Count Term Assessment Met Target	Term Assessment Percent Complete	Term Assessment Percent Met Target
CNC Machining	201970	MCH130	0	0	0	0
CNC Machining	201970	MCH132	0	0	0	0
CNC Machining	201970	MCH134	0	0	0	0
CNC Machining	202030	MCH136	0	0	0	0
CNC Machining	202030	MCH137	0	0	0	0
CNC Machining	202030	MCH139	0	0	0	0
CNC Machining	202030	MCH240	0	0	0	0
CNC Machining	202030	MCH245	0	0	0	0
CNC Machining	202070	MCH130	13	12	100	92.3077
CNC Machining	202070	MCH132	11	9	100	81.8182
CNC Machining	202070	MCH134	9	8	100	88.8889
CNC Machining	202070	MCH240	4	4	100	100
CNC Machining	202130	DDSN135	6	6	100	100
CNC Machining	202130	MCH136	12	12	100	100
CNC Machining	202130	MCH137	11	10	100	90.9091
CNC Machining	202130	MCH139	8	8	100	100
CNC Machining	202130	MCH245	6	6	100	100
CNC Machining	202170	MCH130	13	13	100	100
CNC Machining	202170	MCH132	11	11	100	100
CNC Machining	202170	MCH134	9	9	100	100
CNC Machining	202170	MCH240	4	3	100	75
IWMF	201970	WLDG112	0	0	0	0
IWMF	201970	WLDG112	0	0	0	0
IWMF	201970	WLDG135	0	0	0	0
IWMF	201970	WLDG135	0	0	0	0
IWMF	201970	WLDG181	0	0	0	0
IWMF	201970	WLDG181	0	0	0	0
IWMF	202030	WLDG137	0	0	0	0
IWMF	202030	WLDG137	0	0	0	0
IWMF	202030	WLDG141	0	0	0	0
IWMF	202030	WLDG141	0	0	0	0
IWMF	202030	WLDG151	1	0	0	0
IWMF	202030	WLDG151	1	0	0	0
IWMF	202070	WLDG112	0	0	0	0
IWMF	202070	WLDG135	0	0	0	0
IWMF	202070	WLDG181	0	0	0	0
IWMF	202130	WLDG137	0	0	0	0
IWMF	202130	WLDG141	0	0	0	0
IWMF	202130	WLDG151	1	0	0	0
IWMF	202170	WLDG112	0	0	0	0
IWMF	202170	WLDG135	0	0	0	0
IWMF	202170	WLDG181	0	0	0	0

Faculty Author	FullName	ShortName	CreationDate	Status
Torres, Cody	Curriculum revision for CUTTING PROCESSES	Revision to WLDG112	2/22/2021	Completed
Torres, Cody	Curriculum revision for SMAW THEORY AND PRACTICAL APPLICATION	Revision to WLDG181	2/22/2021	Completed
Torres, Cody	Curriculum revision for BLUEPRINT READING, LAYOUT, AND BEGINNING FABRICATION	Revision to WLDG137	2/22/2021	Completed
Torres, Cody	Curriculum revision for GTAW THEORY AND PRACTICAL APPLICATION	Revision to WLDG141	2/22/2021	Completed
Torres, Cody	Curriculum revision for SHOP PRACTICES	Revision to WLDG151	2/22/2021	Completed
McLaughlin, John	Curriculum revision for INTRODUCTION TO ENGINE LATHES	Revision to MCH132	2/22/2020	Completed
McLaughlin, John	Curriculum revision for INTRODUCTION TO MILLS	Revision to MCH134	2/22/2020	Completed
McLaughlin, John	Curriculum revision for ADVANCED LATHES	Revision to MCH136	2/22/2020	Completed
McLaughlin, John	Curriculum revision for ADVANCED MILLS	Revision to MCH137	2/22/2020	Completed
McLaughlin, John	Curriculum revision for MACHINE SHOP	Revision to MCH130	2/22/2020	Completed
McLaughlin, John	Curriculum revision for GRINDING APPLICATIONS	Revision to MCH139	2/22/2020	Completed
McLaughlin, John	Curriculum revision for METALLURGY	Revision to MCH240	2/22/2020	Completed
McLaughlin, John	Curriculum revision for SHOP PRACTICES	Revision to MCH245	2/22/2020	Completed
McLaughlin, John	New Course: DDSN135 Solidworks 1	New Course: DDSN135	2/24/2020	Completed
McLaughlin, John	Curriculum revision for METALLURGY	Revision to MCH240	4/6/2021	Completed

The University of Montana
Multi-Year Comparison of Operating Accounts
H06031

Fund: 411000 General Operating
 Orgn: 443305 2nd Year Welding

Account Type Levels / Accounts	2017	2018
60 Personal Services		
61 Salaries and Wages		
61123 Contract Faculty	39,405	0
Salaries and Wages:	39,405	0
64 Employee Benefits		
61401 FICA	2,443	0
61402 Retirement	0	0
61403 Group Insurance	11,594	1,054
61404 Workers Compensation	197	0
61409 Medicare Tax	571	0
61410 State Unemployment Tax	99	0
61415 TIAA-CREF Retirement	3,813	0
61415A TIAA-CREF 1% HB95	394	0
Employee Benefits:	19,111	1,054
Personal Services:	58,516	1,054
70 Operating and Capital		
72 Supplies		
62203 Clothing & Personal Supplies	20	0
62225 Books & Reference Materials	279	0
62229 Shop Supplies & Tools	775	0
62249 Minor Software < \$100,000	325	0
62250 Pro-Card	0	0
Supplies:	1,399	0
Operating and Capital:	1,399	0
Orgn 443305 Total:		
Income (Credits)	\$0	\$0
Expenses (Debits)	\$59,915	\$1,054

The University of Montana
Multi-Year Comparison of Operating Accounts
H06031

Fund: 411000 General Operating
Orgn: 443305 2nd Year Welding

<u>Account Type Levels / Accounts</u>	<u>2017</u>	<u>2018</u>
Fund 411000 Total:		
Income (Credits)	\$0	\$0
Expenses (Debits)	\$59,915	\$1,054

The University of Montana
Multi-Year Comparison of Operating Accounts

<u>Account Type Levels / Accounts</u>	<u>2017</u>	<u>2018</u>
Grand Total: Income (Credits)	\$0	\$0
Expenses (Debits)	\$59,915	\$1,054

The University of Montana
Multi-Year Comparison of Operating Accounts
H06020

Fund: 411000 General Operating
Orgn: 443303 Computer Aided Manufacturing

Account Type Levels / Accounts	2017	2018	2019	2020	2021
60 Personal Services					
61 Salaries and Wages					
61123 Contract Faculty	124,775	164,634	165,951	99,229	106,493
61133 Termination Pay-Sick Leave	0	0	4,448	18,767	0
Salaries and Wages:	124,775	164,634	170,400	117,996	106,493
62 Hourly Wages					
61228 Student Work Study-State	573	445	366	0	260
Hourly Wages:	573	445	366	0	260
64 Employee Benefits					
61401 FICA	6,772	10,039	10,680	8,236	5,535
61402 Retirement	0	0	0	0	0
61403 Group Insurance	27,404	37,944	37,944	25,296	25,296
61404 Workers Compensation	732	214	159	478	386
61409 Medicare Tax	1,584	2,348	2,498	1,926	1,295
61410 State Unemployment Tax	281	577	726	360	214
61411 Teachers Retirement	6,169	6,913	7,015	1,188	0
61415 TIAA-CREF Retirement	6,363	9,057	10,477	10,083	7,979
61415A TIAA-CREF 1% HB95	658	1,031	1,084	992	975
61416 TRS Option 1	0	0	0	19,048	0
61499 Benefits-General	0	0	0	0	0
Employee Benefits:	49,963	68,122	70,584	67,607	41,681
Personal Services:	175,311	233,201	241,350	185,603	148,433
70 Operating and Capital					
71 Other Services					
62102 Consultant & Professional Services	0	0	0	0	851
Other Services:	0	0	0	0	851
72 Supplies					
62203 Clothing & Personal Supplies	20	0	0	0	0
62204 Educational Supplies	2,861	4,321	16,756	4,859	10,441
62210 Minor Equipment	9,273	2,651	1,594	24	10,808
62214 Printing Supplies	0	0	49	0	35
62223 Training Supplies	10,143	0	0	0	0
62225 Books & Reference Materials	104	0	158	94	362
62229 Shop Supplies & Tools	13,382	0	111	18	0
62232 Safety & Security Supplies	325	50	0	400	0
62245 Computer Equipment <\$5,000	0	266	0	0	0
62249 Minor Software < \$100,000	4,181	0	1,997	4,320	2,235

The University of Montana
Multi-Year Comparison of Operating Accounts
H06020

Fund: 411000 General Operating
 Orgn: 443303 Computer Aided Manufacturing

Account Type Levels / Accounts	2017	2018	2019	2020	2021
70 Operating and Capital					
72 Supplies					
62250 Pro-Card	0	0	0	0	0
62282 Ink	0	0	229	0	84
62295 Janitorial Supplies	0	105	90	0	0
62299 General Supplies	0	0	0	0	0
Supplies:	40,289	7,393	20,983	9,714	23,965
73 Communication					
62304 Postage & Mailing	0	3	0	0	0
Communication:	0	3	0	0	0
74 Travel					
62412 Out of State Commercial Transport	85	0	0	0	0
Travel:	85	0	0	0	0
75 Rent					
62515 Gas Cylinders-Rent	0	226	129	34	12
Rent:	0	226	129	34	12
77 Repair & Maintenance					
62701 Buildings & Grounds	0	997	0	0	0
62720 Batteries	0	0	0	0	73
62745 Educational Equipment	0	5,342	1,782	0	4,077
62750 Software Maintenance	0	0	702	957	0
62799 Repairs & Maintenance-General	0	0	0	0	0
Repair & Maintenance:	0	6,339	2,484	957	4,151
78 Other Expenses					
62802 Subscriptions	0	0	0	0	0
62809 Education Training Costs	0	0	0	250	0
62817 Meetings & Conference Costs	0	0	0	0	0
62822 Freight & Expenses	0	16	0	0	0
62899 Other Expenses-General	0	0	0	0	0
Other Expenses:	0	16	0	250	0
7D Capital Equipment					
63107 Educational & Recreational	0	0	13,228	0	0
Capital Equipment:	0	0	13,228	0	0
Operating and Capital:	40,373	13,976	36,825	10,956	28,978

The University of Montana
Multi-Year Comparison of Operating Accounts
H06020

Fund: 411000 General Operating
Orgn: 443303 Computer Aided Manufacturing

<u>Account Type Levels / Accounts</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Orgn 443303 Total:					
Income (Credits)	\$0	\$0	\$0	\$0	\$0
Expenses (Debits)	\$215,684	\$247,177	\$278,175	\$196,558	\$177,411

The University of Montana
Multi-Year Comparison of Operating Accounts
H06020

Fund: 411000 General Operating
Orgn: 443303 Computer Aided Manufacturing

Account Type Levels / Accounts	2017	2018	2019	2020	2021
Fund 411000 Total:					
Income (Credits)	\$0	\$0	\$0	\$0	\$0
Expenses (Debits)	\$215,684	\$247,177	\$278,175	\$196,558	\$177,411

**The University of Montana
Multi-Year Comparison of Operating Accounts**

<u>Account Type Levels / Accounts</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Grand Total: Income (Credits)	\$0	\$0	\$0	\$0	\$0
Expenses (Debits)	\$215,684	\$247,177	\$278,175	\$196,558	\$177,411

The University of Montana
Multi-Year Comparison of Operating Accounts
H06030

Fund: 411000 General Operating
 Orgn: 443304 Welding

Account Type Levels / Accounts	2017	2018	2019	2020	2021
60 Personal Services					
61 Salaries and Wages					
61123 Contract Faculty	54,716	98,998	87,774	139,477	99,956
61125 Classified Employee	0	0	0	0	0
61132 Contract Faculty-Extra Comp	0	0	0	1,100	0
61133 Termination Pay-Sick Leave	0	0	1,686	1,997	0
Salaries and Wages:	54,716	98,998	89,460	142,574	99,956
62 Hourly Wages					
61228 Student Work Study-State	226	1,419	732	722	782
Hourly Wages:	226	1,419	732	722	782
64 Employee Benefits					
61401 FICA	2,853	6,255	5,464	8,757	5,891
61402 Retirement	0	0	0	0	0
61403 Group Insurance	14,756	28,195	28,458	35,836	25,296
61404 Workers Compensation	412	132	88	838	475
61409 Medicare Tax	667	1,463	1,278	2,048	1,378
61410 State Unemployment Tax	118	355	390	364	236
61415 TIAA-CREF Retirement	4,499	9,950	8,384	13,531	9,023
61415A TIAA-CREF 1% HB95	546	990	867	1,399	979
61499 Benefits-General	0	0	0	0	0
Employee Benefits:	23,851	47,340	44,930	62,774	43,278
Personal Services:	78,794	147,757	135,122	206,070	144,016
70 Operating and Capital					
71 Other Services					
62102 Consultant & Professional Services	1,200	0	0	1,200	600
62135 Consulting Services-Training	0	0	0	0	0
Other Services:	1,200	0	0	1,200	600
72 Supplies					
62201 Agricultural Supplies	0	0	0	108	0
62202 Athletic & Recreational Supplies	0	0	0	35	0
62203 Clothing & Personal Supplies	80	0	0	0	0
62204 Educational Supplies	34,075	11,587	48,582	23,979	15,814
62210 Minor Equipment	38,887	3,701	4,082	4,542	4,994
62223 Training Supplies	27,642	0	0	0	0
62225 Books & Reference Materials	0	345	0	0	733
62229 Shop Supplies & Tools	6,728	0	705	197	473
62232 Safety & Security Supplies	0	238	0	200	195

The University of Montana
Multi-Year Comparison of Operating Accounts
H06030

Fund: 411000 General Operating
 Orgn: 443304 Welding

Account Type Levels / Accounts	2017	2018	2019	2020	2021
70 Operating and Capital					
72 Supplies					
62241 Office Supplies	0	0	0	56	0
62249 Minor Software < \$100,000	3,590	250	1,586	0	0
62250 Pro-Card	0	0	0	0	0
62282 Ink	0	0	51	0	0
62295 Janitorial Supplies	0	0	0	0	0
62299 General Supplies	0	0	0	0	0
Supplies:	111,002	16,122	55,006	29,116	22,210
73 Communication					
62304 Postage & Mailing	0	3	0	0	0
Communication:	0	3	0	0	0
74 Travel					
62401 In State Personal Car Mileage	0	0	0	0	0
62405 In State Other	0	0	0	0	0
62415 Out of State-Other	0	0	0	0	0
62499 Travel-General	0	0	0	0	0
Travel:	0	0	0	0	0
75 Rent					
62505 Non Office Equipment-Rent	0	0	0	0	0
62508 Educational & Recreational-Rent	0	0	0	0	0
62515 Gas Cylinders-Rent	11,561	10,096	14,394	13,611	638
62599 Rent-General	0	0	0	0	0
Rent:	11,561	10,096	14,394	13,611	638
76 Utilities					
62607 Propane	0	0	51	46	0
Utilities:	0	0	51	46	0
77 Repair & Maintenance					
62707 Vehicles-Non Passenger	0	0	0	0	0
62745 Educational Equipment	2,730	712	6,050	1,466	3,957
62750 Software Maintenance	0	0	0	0	0
62799 Repairs & Maintenance-General	0	0	0	0	44
Repair & Maintenance:	2,730	712	6,050	1,466	4,001
78 Other Expenses					
62801 Dues	264	264	264	0	264
62802 Subscriptions	0	0	0	264	275
Other Expenses:	264	264	264	264	539

The University of Montana
Multi-Year Comparison of Operating Accounts
H06030

Fund: 411000 General Operating
 Orgn: 443304 Welding

Account Type Levels / Accounts	2017	2018	2019	2020	2021
70 Operating and Capital					
7D Capital Equipment					
63107 Educational & Recreational	66,980	0	0	14,951	0
Capital Equipment:	66,980	0	0	14,951	0
Operating and Capital:	193,737	27,196	75,765	60,654	27,989
Orgn 443304 Total:					
Income (Credits)	\$0	\$0	\$0	\$0	\$0
Expenses (Debits)	\$272,531	\$174,953	\$210,887	\$266,724	\$172,005

The University of Montana
Multi-Year Comparison of Operating Accounts
H06030

Fund: 411000 General Operating
Orgn: 443304 Welding

Account Type Levels / Accounts	2017	2018	2019	2020	2021
Fund 411000 Total:					
Income (Credits)	\$0	\$0	\$0	\$0	\$0
Expenses (Debits)	\$272,531	\$174,953	\$210,887	\$266,724	\$172,005

The University of Montana
Multi-Year Comparison of Operating Accounts

<u>Account Type Levels / Accounts</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Grand Total: Income (Credits)	\$0	\$0	\$0	\$0	\$0
Expenses (Debits)	\$272,531	\$174,953	\$210,887	\$266,724	\$172,005

The University of Montana
Multi-Year Comparison of Operating Accounts
H60520, H60540

Fund: 431118 Welding Materials Fee
 Orgn: 443819 Welding Materials Fee

Account Type Levels / Accounts	2017	2018	2019	2020	2021
50 Revenue					
51 Tuition and Fees					
50010 Class Fees, Other	11,508	14,406	12,288	13,160	12,205
Tuition and Fees:	11,508	14,406	12,288	13,160	12,205
5F Other Sources					
50111 Allocation Within Funds	0	0	0	3,437	0
Other Sources:	0	0	0	3,437	0
Revenue:	11,508	14,406	12,288	16,597	12,205
70 Operating and Capital					
72 Supplies					
62204 Educational Supplies	0	20,262	23,011	22,765	12,892
62210 Minor Equipment	0	1,396	0	0	0
62216 Gasoline	0	0	383	0	0
62229 Shop Supplies & Tools	0	0	0	0	33
62232 Safety & Security Supplies	0	0	0	0	102
62233 Paper-Non State Provider	0	86	0	0	0
62295 Janitorial Supplies	0	0	0	0	0
62299 General Supplies	0	0	0	0	0
Supplies:	0	21,744	23,394	22,765	13,027
75 Rent					
62515 Gas Cylinders-Rent	0	4,787	2,942	15	0
62599 Rent-General	0	0	0	0	0
Rent:	0	4,787	2,942	15	0
77 Repair & Maintenance					
62745 Educational Equipment	0	0	0	0	34
Repair & Maintenance:	0	0	0	0	34
Operating and Capital:	0	26,531	26,336	22,780	13,060
Orgn 443819 Total:					
Income (Credits)	\$11,508	\$14,406	\$12,288	\$16,597	\$12,205
Expenses (Debits)	\$0	\$26,531	\$26,336	\$22,780	\$13,060

The University of Montana
Multi-Year Comparison of Operating Accounts
H60520, H60540

Fund: 431118 Welding Materials Fee
Orgn: 443819 Welding Materials Fee

<u>Account Type Levels / Accounts</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Fund 431118 Total:					
Income (Credits)	\$11,508	\$14,406	\$12,288	\$16,597	\$12,205
Expenses (Debits)	\$0	\$26,531	\$26,336	\$22,780	\$13,060

The University of Montana
Multi-Year Comparison of Operating Accounts
H60520, H60540

Fund: 431119 Welding 2nd Yr. Program Fee
 Orgn: 443820 Welding 2nd Yr. Program Fee

Account Type Levels / Accounts	2017	2018	2019	2020	2021
50 Revenue					
51 Tuition and Fees					
50010 Class Fees, Other	0	0	0	0	0
Tuition and Fees:	0	0	0	0	0
5F Other Sources					
50111 Allocation Within Funds	0	0	0	-3,432	0
Other Sources:	0	0	0	-3,432	0
Revenue:	0	0	0	-3,432	0
70 Operating and Capital					
72 Supplies					
62204 Educational Supplies	0	0	0	0	0
62210 Minor Equipment	0	0	0	0	0
Supplies:	0	0	0	0	0
Operating and Capital:	0	0	0	0	0
Orgn 443820 Total:					
Income (Credits)	\$0	\$0	\$0	-\$3,432	\$0
Expenses (Debits)	\$0	\$0	\$0	\$0	\$0

The University of Montana
Multi-Year Comparison of Operating Accounts
H60520, H60540

Fund: 431119 Welding 2nd Yr. Program Fee
Orgn: 443820 Welding 2nd Yr. Program Fee

Account Type Levels / Accounts	2017	2018	2019	2020	2021
Fund 431119 Total:					
Income (Credits)	\$0	\$0	\$0	-\$3,432	\$0
Expenses (Debits)	\$0	\$0	\$0	\$0	\$0

The University of Montana
Multi-Year Comparison of Operating Accounts

<u>Account Type Levels / Accounts</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Grand Total: Income (Credits)	\$11,508	\$14,406	\$12,288	\$13,165	\$12,205
Expenses (Debits)	\$0	\$26,531	\$26,336	\$22,780	\$13,060

Program Review Data Summary - Metals Technology	AY 2016-17 to AY 2020-21
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Market Analysis									
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Indicator	Metric	Current MT (2018)	Projected MT (2028)	Annual Projected MT	Current U.S. (2020)	Projected U.S. (2030)	Annual Projected U.S.	Program Notes	Source
	Job openings from related occupations	408	428	48	97,873	100,827	10,473	See additional tab for occupations	Career OneStop, U.S. Dept. of Labor
	Percent change in job openings for related occupations		0%			-4%			Career OneStop, U.S. Dept. of Labor
	Median hourly wage/annual salary for related occupations	\$37,988 annual	\$18.26 hourly		\$40,516 annual	\$19.48 hourly			Career OneStop, U.S. Dept. of Labor

Program Data									
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	Metric	AY 1617	AY 1718	AY 1819	AY 1920	AY 2021	5-Year Avg	Program Notes	Source
PI	Job placement rate	n/a	n/a	n/a	n/a	n/a	#DIV/0!		Montana University System Grads Finding Work in MT dashboard
	<i>Student applications</i>						#DIV/0!	<i>Not applicable for this program</i>	
	<i>Students accepted</i>						#DIV/0!		
	<i>Acceptance rate</i>						#DIV/0!		

Student Participation and Success

Indicator	Metric	AY 1617	AY 1718	AY 1819	AY 1920	AY 2021	5-Year Avg	Program Notes	Source
	Program capacity	30	30	30	30	30	30		Program Records
	Unduplicated annual enrollment (headcount)	16	13	8	3	2	8		Institutional Research
	Percent program capacity	53%	43%	27%	10%	7%	28%		Institutional Research
PI	Average annual FTE	16.6	10.4	7.6	2.3	1.2	8		Institutional Research
PI	Retention rate	100%	57%	20%	60%	n/a	59%	No entering cohort in Fall 2019	Institutional Research
	Credential course completion rate	94%	94%	95%	94%	96%	95%	Rates are calculated based on all students in course, regardless of major	Institutional Research
	Degrees/certificates awarded	7	0	6	5	3	4		Institutional Research
	150% graduation rate	80%	80%	60%	20%	60%	60%	Any degree awarded, regardless of program	Institutional Research
PI	Degree production rate	42	0	79	217	250	55		Institutional Research
	<i>Transfer rate</i>	-	-	-	-	-	-	<i>Not applicable for this program</i>	
PI	<i>Exam pass rate</i>	-	-	-	-	-	-		

Program Review Data Summary - Metals Technology **AY 2016-17 to AY 2020-21**

Fiscal Resources

Indicator	Metric	AY 1617	AY 1718	AY 1819	AY 1920	AY 2021	5-Year Average	Program Notes	Source
	Total program revenue	\$ 158,200	\$ 103,114	\$ 82,741	\$ 31,149	\$ 11,430	\$ 77,327		Institutional Research/Finance
	Overall HC revenue/FTE	\$ 9,334	\$ 9,736	\$ 9,730	\$ 10,383	\$ 11,430	\$ 10,123		Institutional Research/Finance
	Total program expenditure	n/a	n/a	n/a	n/a	n/a	n/a	No dedicated funds for program	Institutional Research/Finance
PI	Program expenditure/FTE	n/a	n/a	n/a	n/a	n/a	n/a	No dedicated funds for program	Institutional Research/Finance
	Average HC program expenditure/FTE	\$ 7,237	\$ 6,284	\$ 7,057	\$ 6,956	\$ 7,812	\$ 7,069		Institutional Research/Finance
	Program expenditure/completion	n/a	n/a	n/a	n/a	n/a	n/a	No dedicated funds for program	Institutional Research/Finance
	Average HC program expenditure/completion	\$ 19,613	\$ 17,867	\$ 14,198	\$ 17,505	\$ 18,180	\$ 17,473		Institutional Research/Finance

Program Review Data Summary - Metals Technology	AY 2016-17 to AY 2020-21
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Fiscal Resources			
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Term	Abbrev.	Definition	Data Source
150% graduation rate		Percentage of students graduating within 150% of normal time to completion for the degree. Percentage is calculated based on the number of entering students as defined by the program (see also Retention Rate). 100% time to completion for Metals Technology 4 semesters	Institutional Research - HC Census Enrollment Reports updated from Banner degrees awarded
Academic year		Summer, fall, and spring terms (e.g. AY 2020-21 includes summer 2020, fall 2020, and spring 2021)	MUS Enrollment Reporting Procedures
Acceptance rate		Calculation = ((Students accepted) / (Student applications)) * 100	
Average Annual FTE	AAFTE	Calculation = (Summer FTE + Fall FTE + Spring FTE)/2	MUS Enrollment Reporting Procedures
Average HC expenditure/FTE		Average of all programs' expenditure/FTE calculations, excludes programs currently on moratorium or terminated	Institutional Research/Finance
Average HC expenditure/FTE		Average of all programs' expenditure/completion calculations, excludes programs currently on moratorium or terminated	Institutional Research/Finance
Credential course completion rate		Percent of students completing program courses within an academic year with a passing grade (C- or higher, P) divided by the number of students enrolled in the courses during the academic year. Calculation includes only program-specific courses and does not include required general education courses, such as WRIT121T.	Institutional Research - HC EOT Course Info Reports
Degrees/certificates awarded		Number of program degrees granted within the academic year	Institutional Research - HC Completion History Report
Full-Time Equivalent	FTE	Calculation = (Semester student credit hours)/15	MUS Enrollment Reporting Procedures
Indicator	KPI/PI	Key Performance Indicator or Performance Indicator for program effectiveness under Strategic Enrollment Planning	HC Strategic Enrollment Plan Situational Analysis
Job openings from related occupations		Occupations are identified from official SOC classifications; current number employed in this occupation	Career OneStop, U.S. Dept. of Labor
Job placement rate		Percent of graduates employed in-state for at least 1 quarter following graduation	Montana University System Workforce Development Dashboard

Program Review Data Summary - Metals Technology	AY 2016-17 to AY 2020-21
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Fiscal Resources			
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Term	Abbrev.	Definition	Data Source
Median hourly wage/annual salary for related occupations		Occupations are identified from official SOC classifications; median wage is wages at 50th percentile	Career OneStop, U.S. Dept. of Labor
Overall HC revenue/FTE		An approximation of the total revenue generated by a program. The net tuition revenue and total state allocation are divided by the total resident FTE to obtain overall revenue/FTE	Institutional Research - HC Academic Program Profile, MUS Operating Budgets and Reports
Overall program revenue		An approximation of the total revenue generated by a program. The net tuition revenue and total state allocation are each divided by the total resident FTE to obtain tuition revenue/FTE and state allocation/FTE. These figures are multiplied by the program FTE and added together for a total program revenue. Excludes programs on moratorium or terminated	Institutional Research - HC Academic Program Profile, MUS Operating Budgets and Reports
Percent change in job openings for related occupations		Occupations are identified from official SOC classifications; rate of growth expected over next ten years; projections based on assumptions of unemployment rates and labor productivity growth rates	Career OneStop, U.S. Dept. of Labor
Percent program capacity		Calculation = (Unduplicated Annual Enrollment) / (Program Capacity)	
Program capacity		Maximum number of students the program can accommodate in one academic year	Program records
Program expenditure/completion		Approximation of program expenses per degree awarded = total program expenditure divided by degrees awarded	Institutional Research/Finance
Program expenditure/FTE		Approximation of program expenses per FTE = total program expenditure divided by AAFTE	Institutional Research/Finance
Retention rate		The proportion of students beginning in one cohort who (1) were still enrolled for at least one credit as of census date in the fall of the next academic year, or (2) completed a degree before the fall semester of the next academic year	Institutional Research - HC Semester Census Enrollment Reports
Standard Occupational Classification	SOC	System used by federal statistical agencies to classify workers/jobs into occupational categories for the purpose of collecting, calculating, analyzing, or disseminating data. Occupations are classified based on work performed and, usually, the skills, education, and/or training needed to perform the work at a competent level	U.S. Bureau of Labor Statistics. Division of Occupational Employment Statistics
Total program expenditure		Total personal and operating expenses for the index assigned to the program for the academic year	Institutional Research/Finance

Program Review Data Summary - Metals Technology			AY 2016-17 to AY 2020-21
Fiscal Resources			
Term	Abbrev.	Definition	Data Source
Unduplicated annual enrollment (Headcount)		Total number of unique students enrolled in the program during one academic year	Institutional Research - HC Annual Enrollment Report