

ANNUAL

REPORT OF PROGRAM DATA

2023

A photograph of a campus landscape featuring a winding paved path, green grass, and modern buildings in the background. The image is overlaid with a semi-transparent purple filter and a white geometric design consisting of intersecting lines forming a diamond shape.

UNIVERSITY *of* HAWAI'I

HAWAI'I

COMMUNITY COLLEGE

2023 Annual Report of Program Data
Machine, Welding and Industrial Mechanics Technologies -
(MWIM)

1. Program or Unit Mission

This program prepares the student for employment in the metalworking and mechanical/maintenance trades. Employment may be in construction, food processing, manufacturing, utilities, astronomical observatories, or related industries. The job requires good physical health, above average eye/hand coordination, mechanical reasoning, and good form perception and spatial relationship. Job responsibilities may include fabricating, repairing, or maintaining metal products on equipment, buildings, and systems.

2. Program Student Learning Outcomes or Unit/Service Outcomes

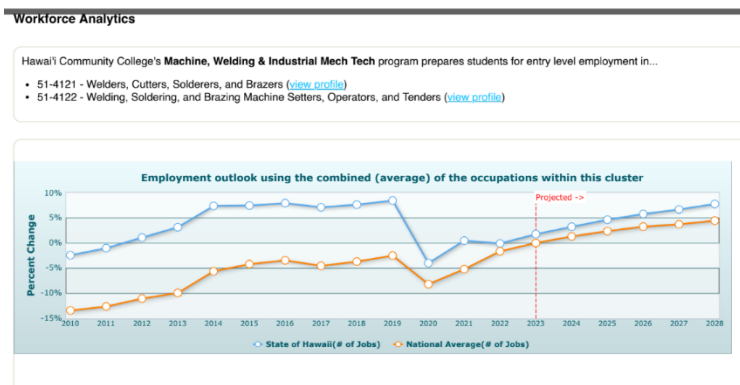
- Demonstrate the attributes of a good employee including good safety practices; good communication skills; positive work ethics; working collaboratively or independently under supervision; being a life-long learner; demonstrating an awareness of hazardous materials; and taking responsibility for the orderliness and cleanliness of the workplace.
- Demonstrate and be able to apply the proper set-up and use of basic machine tools and equipment; metalworking equipment; common welding and cutting processes; industrial mechanics equipment; material handling equipment and related machinery; and entry-level ability to interpret blueprints.
- Demonstrate and be able to apply mechanical reasoning, form perception and spatial relations, and numerical reasoning skills as a part of the basic entry-level skills and knowledge necessary to gain employment in the Machining, Welding, Industrial Mechanics or related fields.

3. Analysis of the Program/Unit

URL ARPD 2023: <https://uhcc.hawaii.edu/varpd/>

The Program prepares students for entry-level employment in welding-related occupations, such as Welders, Cutters, Solderers, and Brazers, and Welding, Soldering, and Brazing Machine Setters, Operators, and

Tenders. The Workforce Analysis shows a projected employment outlook for the program, both for the State of Hawaii and the National Average. The projected job growth appears to be positive: Employment Outlook (2018 to 2028): Projected job growth: +10%. The employment rates show that Certificate graduates have a higher percentage at 75% versus an Associates graduate at 55%. This may indicate that students

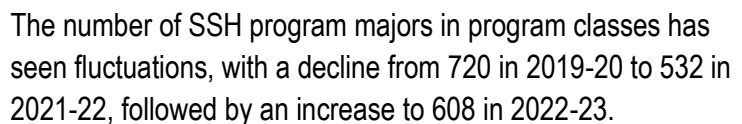


Program: Machine, Welding and Industrial Mechanics Technologies - (MWIM)

Although the future looks bright, the number of new and replacement jobs in the state experienced declined over the past five years. In 2018-19, there were 139 positions, which dropped to 113 in 2022-23. This suggests a decrease in demand for graduates in this field. The dips and valleys in employment follows a normal cycle and we expect the future demand to

assist with enrollment.

This is a positive sign, as full-time students often perform better academically. We will continue to encourage full-time enrollment by offering flexible scheduling options. We will also continue to assist in attracting high school and non-traditional students.



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2023 Hawai'i Community College ARPD

Program: Machine, Welding and Industrial Mechanics Technologies - (MWIM)

The fill rate has improved from 60.9% in 2020-21 to 64.6% in 2022-23. While this is a positive trend, the program will continue to work on outreach to increase the fill rate further. This positive trend could be a result

| # | Efficiency Indicators | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|------|--------------------------------------|-----------|-----------|-----------|-----------|-----------|
| 9. | Average Class Size | 12 | 15 | 11 | 10 | 12 |
| 10.* | Fill Rate | 65.9% | 82.3% | 60.9% | 62.2% | 64.6% |
| 11. | FTE BOR Appointed Faculty | 2 | 2 | 1 | 1 | 1 |
| 12.* | Majors to FTE BOR Appointed Faculty | 15 | 15 | 28 | 24 | 26 |
| 13. | Majors to Analytic FTE Faculty | 15 | 15 | 14 | 12 | 13 |
| 13a. | Analytic FTE Faculty | 2 | 2 | 2 | 2 | 2 |
| 14. | Overall Program Expenditures | \$152,921 | \$162,311 | \$154,989 | \$153,097 | \$153,170 |
| 14a. | General Funded Budget Allocation | \$137,987 | \$145,361 | \$154,989 | \$148,807 | \$150,691 |
| 14b. | Special/Federal Budget Allocation | 0 | 0 | 0 | 0 | 0 |
| 14c. | Tuition and Fees | \$14,934 | \$16,950 | 0 | \$4,290 | \$2,479 |
| 15. | Cost per SSH | \$246 | \$212 | \$262 | \$288 | \$252 |
| 16. | Number of Low-Enrolled (<10) Classes | 0 | 0 | 0 | 3 | 4 |

from offering flexibility for working adult students.

The number of degree and certificates awarded decreased from 8 in 2018-2019 to 4 in 2022-2023. We expect to see this increase in the next year.

The program has seen a decrease in the number of Pell recipients, from 10 in 2018-2019 to 4 in 2022-2023. However, I have current service members in the program that are receiving the GI Bill. We suggest having a marketing campaign that focuses on attracting non-traditional students, scholarships and highlighting financial aid resources.

| # | Effectiveness Indicators | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
|------|--|---------|---------|---------|---------|---------|
| 17. | Successful Completion (Equivalent C or Higher) | 100% | 98% | 97% | 95% | 92% |
| 18. | Withdrawals (Grade = W) | 0 | 0 | 0 | 0 | 0 |
| 19.* | Persistence Fall to Spring | 81% | 87% | 82% | 69% | 75% |
| 19a. | Persistence Fall to Fall | 48% | 46% | 50% | 35% | 46% |
| 20.* | Unduplicated Degrees/Certificates Awarded | 18 | 22 | 19 | 20 | 18 |
| 20a. | Degrees Awarded | 4 | 7 | 3 | 6 | 2 |
| 20b. | Certificates of Achievement Awarded | 9 | 9 | 8 | 8 | 6 |
| 20c. | Advanced Professional Certificates Awarded | 0 | 0 | 0 | 0 | 0 |
| 20d. | Other Certificates Awarded | 9 | 12 | 11 | 9 | 12 |
| 21. | External Licensing Exams Passed ¹ | | | | | |
| 22. | Transfers to UH 4-yr | 1 | 1 | 0 | 0 | 0 |
| 22a. | Transfers with credential from program | 1 | 1 | 0 | 0 | 0 |
| 22b. | Transfers without credential from program | 0 | 0 | 0 | 0 | 0 |

The program has met its goal in postsecondary placement, which is a positive outcome.

This suggests that graduates are successfully transitioning to their intended career paths or furthering education.

The program has met its goal, for Earned Recognized Credentials, indicating that students are gaining valuable skills and qualifications.

| # | Perkins Indicators | Goal | Actual | Met |
|-----|--|------|--------|---------|
| 29. | 1P1 Postsecondary Placement | 33 | 74 | Met |
| 30. | 2P1 Earned Recognized Credential | 34 | 71 | Met |
| 31. | 3P1 Nontraditional Program Concentration | 11 | 8 | Not Met |
| 32. | Placeholder - intentionally blank | N/A | N/A | N/A |
| 33. | Placeholder - intentionally blank | N/A | N/A | N/A |
| 34. | Placeholder - intentionally blank | N/A | 0 | N/A |

The program has not met its goal in nontraditional program concentration, with 8 non-traditional students in 2022-2023. Recently, the UH System is helping to feature Women in

trades. These media campaigns help attract females to the program. With the help of marketing materials and support, we could develop additional media campaigns to attract non-traditional students.

The number of degree and certificates awarded decreased from 8 in 2018-2019 to 4 in 2022-2023. This trend will begin to change based on employment outlook requiring certificates and/or degrees.

The program has seen a decrease in the number of Pell recipients, from 10 in 2018-109 to 4 in 2022-2023. However, our program offers courses during the evenings so that we can meet current student needs. Many of our students work full-time or have other obligations. We adjusted our program to non-traditional hours in the evening so that non-traditional students, like working adults, have opportunities to earn a college credential in a trade. These adults do not qualify for financial aid. I also have current service members in the program receiving the GI Bill. These veterans also do not meet financial need to qualify for Pell. I think that developing outreach material and continuing to attend college recruitment events could help expand and diversify our student population.

The program has requested an additional faculty member that is a subject matter expert in machining. Without a dedicated faculty member with expertise in machining, the quality of instruction in this area may be compromised. Machining is a specialized field that requires specific knowledge and skills to provide students with a comprehensive education. Relying solely on a lecturer who may not have the same level of expertise can result in suboptimal learning experiences for students. Developing and maintaining a comprehensive curriculum for machining is a demanding task. It requires continuous updates to align with industry standards and technological advancements. Without a dedicated subject matter expert, it may be challenging to keep the curriculum current and relevant. If the college has no resources to adequately support both machining and welding, then the program would be forced to discontinue machining courses. If machining courses are not attracting students, then it should gradually be phased out.

Before the COVID-19 pandemic, there were efforts to increase local outreach in high schools, with a particular focus on establishing a pathway with Hilo High School and securing a faculty position to provide a dual credit pathway. Such initiatives are essential for several reasons. High school outreach programs create opportunities for high school students to gain early exposure to higher education. Offering dual credit pathways allows students to earn college credits while still in high school, making higher education more accessible and affordable. These dual credit pathways provide a smooth transition from high school to college. Students who participate in these programs can acclimate to the college environment, expectations, and academic rigor before fully enrolling, increasing their chances of success. By collaborating with local high schools, we can align their programs with the needs of the local job market. This ensures that students are prepared for careers in our community, enhancing the local workforce.

4. Action Plan

The Action plan hinders on resource availability. MWIM is a one faculty program and it is extremely difficult to teach full-time, conduct course assessment, manage health and safety of facility, and more. I participate in outreach efforts, such as high school events, however, it is when time permits. Having assistance on tasks, such as day-to-day shop preparation, safety checks, etc. would allow for dedicated time on program modifications, targeted outreach, applying for funding to update equipment, and external partnership development. For several years, this request has not been filled.

I have also asked for a faculty to teach machining and another faculty to work with high schools on providing dual-credit courses. However, due to limited campus resources, this has not been possible. We will be working on advocating for these positions together with the Diesel Program faculty member, as we were willing to share an APT position. Having a large learning labs requires support to allow for innovation and staying current.

The following program goals are aligned with the provided strategies:

HGI Action Strategy 1: Strengthen the pipeline from K–12 to the university to improve college readiness and increase college attendance.

Provide dual-credit courses with Hilo High school and develop a pathway for students.

HGI Action Strategy 2: Implement structural improvements that promote persistence to attain a degree and timely completion.

Modify program to meet current needs through updating machines, fixing needed infrastructural issues and working with a subject matter expert, such as new faculty, on machining courses.

5. Resource Implications

Fill our two empty positions, one Machining Faculty (\$77,000/year) and one APT (\$59,000/year) to move forward with the action plans.

Replacing old equipment in a college welding and machining program is vital and necessary for safety, educational quality, industry relevance, cost-savings and environmental considerations. Outdated equipment can pose safety risks to students and instructors due to potential malfunctions or reduced reliability. Newer machinery often incorporates advanced safety features, reducing the likelihood of accidents. Up-to-date equipment ensures that students receive relevant training and hands-on experience with the latest industry standards and technologies. This enhances the overall quality of education and prepares students for real-world challenges. Modern machinery is typically more efficient and productive, allowing students to complete tasks faster and with greater precision. Employers in the welding and machining fields seek candidates with experience on modern equipment. Upgraded tools and machines align the program with industry demands, making graduates more attractive to potential employers. Newer equipment often requires less maintenance and consumes fewer resources, leading to long-term cost savings for the college. It can also reduce downtime and repair expenses. Finally, many modern machines are designed to be more energy-efficient and eco-friendly. Replacing old equipment can align the program with sustainability goals and reduce the college's environmental footprint. Replacement Equipment (\$400,000).