

COLLEGE OF  

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MARIN

**Machine & Metals Technology/Welding**

**Monday, December 12, 2022**

**11:00 – 12:30 p.m.**

**Zoom Meeting: <https://marin-edu.zoom.us/j/87953662141>**

**MINUTES**

**Hosted:**

Alina Varona, Dean of Workforce Development and Career Education, College of Marin (COM)  
Grant Kerr, Machine and Metals Technology Instructor, COM  
Padraig McGee, Welding and Metal Fabrication Instructor, COM  
Heather Rahman, Program Coordinator for Career Education, COM

**Attended:**

Joe Osborn, founder, OMW Corporation  
Jim Duer, Owner, MegaCycle Cams  
Che Rocchild, Welding Instructor/Outreach Coordinator, Boilermakers Local 549  
Mark Martin, Bay Area Regional Director for Manufacturing Workforce Development  
Elizabeth Toups, JVS, Director of utilities Training Programs  
John Callas, Terra Linda high School/Marin Career Tech Center, Teacher  
Brian Madden, Phil Reilly & Co, Owner  
Dan Sunia, Apprenticeship Coordinator for North Bay Area CA Tooling and Machining (CTMAA)  
Dave Garrouette, DKG  
Kathleen Antokhin, Program Coordinator Special Projects, COM  
Ron Palmer, Department Chair for Career Education, COM

<p>Welcome and Introductions – Alina Varona</p>	<p>Alina opened the meeting with a warm welcome and each individual introduced themselves.</p>
<p>Career Education and Program Overview – Alina Varona</p>	<p>Alina gave an overview of Career Education and the program demographics and metrics for Machine and Metals Technology and Welding programs. (Please refer to the presentation slides.)</p>
<p>Labor Market Information – Heather Rahman</p>	<p>Heather recalled statements from the last advisory meeting pertaining to industry labor market, salary and job demands. She asked the group if much has changed. The group agreed that the salaries seem low and the demand is high for talented employees.</p> <p>Stephen Hooper stated that labor statistics show that on a national level, there will be 2.1 unfilled manufacturing jobs by 2,030. Therefore, it's expected to see salaries and demand increase regionally. This has been discussed also on a nationally syndicated podcast via New York Times.</p> <p>Since cost of equipment and software is lower now, we've seen more people enter the workforce as contract manufacturers.</p>
<p>Open Share-outs and Discussion – Committee/Instructors</p>	<p>Additional feedback from committee members included:</p> <ul style="list-style-type: none"> <li>• Entrepreneurship is separate program available in most colleges including COM, CNC and WELD programs normally would not integrate start-up in their curriculum.</li> <li>• It's best for students to first work in the industry for a little while and understand the market well before venturing into their own business.</li> <li>• First year apprentices are earning between \$25 - \$30/hourly.</li> <li>• Having a construction background can elevate someone's career and earnings.</li> <li>• Even if construction students can go to work and get paid a little more than an apprentice in CNC, Metals and Welding, the apprentice can be paid to go to college, get good benefits with vacation</li> </ul>

	<p>time, and their building a strong foundation in their employment.</p> <ul style="list-style-type: none"> <li>• The demand in Welding is still very strong.</li> </ul>
<p>Machine &amp; Metals Technology Updates and Discussion – Grant Kerr, Instructor</p>	<p>Grant spoke about the new equipment in the COM MACH workshop and he described what he is teaching students including grinding, tooling and precision measuring. Learning the machines and terminology to use them will be for the more advanced courses. He is teaching CAM/CAD with Fusion 360.</p> <p>He asked the group for resources for machine maintenance and extra scrap metals.</p> <p>Feedback from the committee included:</p> <ul style="list-style-type: none"> <li>• Appreciation of the introductory to machine tool technology course which is fundamental to the trade. Use of a manual machine is important to gain knowledge of the feel of cutting and forming metal especially when making difficult parts.</li> <li>• Metrology is very important in aerospace work, so the fundamentals are really important.</li> <li>• Assembly is also an important part of the industry.</li> </ul>
<p>Welding Updates and Discussion – Padraig McGee, Instructor</p>	<p>Padraig spoke about the equipment and supplies used in the welding courses. He proposed courses which would comprise of a Certificate of Achievement in Welding and 2 skills certificates including stick and wire welding.</p> <ul style="list-style-type: none"> <li>• Certificate of Achievement, Welding Technician</li> <li>• Skills Certificate in TIG Welding</li> <li>• Skills Certificate in MIG Welding</li> </ul> <p>The committee stated that the course layouts looked amazing for preparing students. They were supportive to offer certificates. No one opposed to offering the new certificates in</p>

	<b>Welding.</b> (Please refer to the presentation slides as reference.)
Summary/Wrap-up – Alina Varona/Heather Rahman	<p>The committee and faculty exchanged contact information and suggestions regarding to machine maintenance, scrap metal, possible student tours for the future. All who need further contact information may reach out to Heather.</p> <p>We thank all who participated in the meeting.</p> <p>The meeting adjourned at 12:20 p.m.</p>



COLLEGE OF  

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**MARIN**

**MACH/WELD Advisory  
Committee Meeting**

November 4, 2022

# AGENDA





# Hello!

Please share your name, role, organization.

# College Updates, Trends, and Outcomes

ALINA VARONA, DEAN, CAREER EDUCATION AND WORKFORCE DEVELOPMENT

# Career Education: Programs

[cte.marin.edu](http://cte.marin.edu)

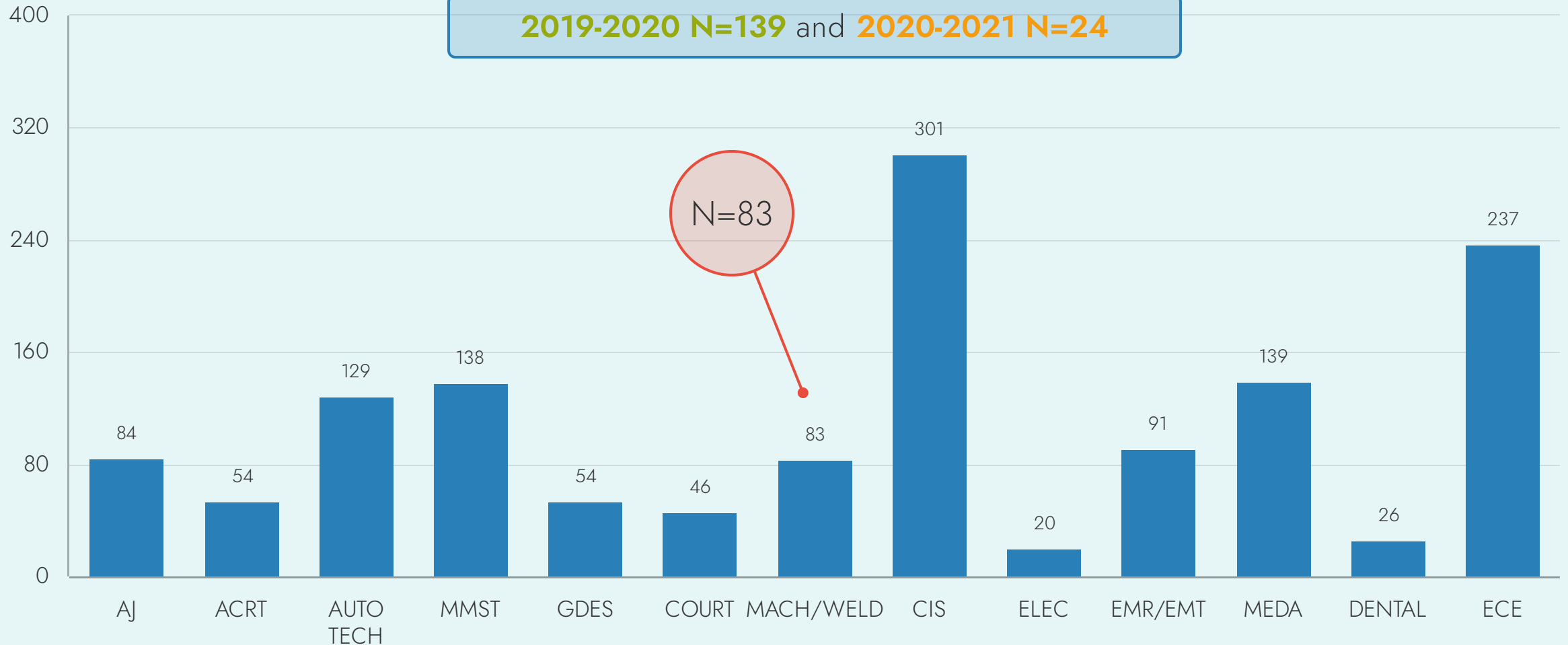


- Administration of Justice
- **Auto & Industrial**  
Auto Collision Repair; Auto Technology; Electronics; **Machine & Metals Technology, Welding**
- Computers & Multimedia  
Computer Information Systems; Graphic Design; 3D, Video, Game Dev; Web Design and Development; MS Office Specialist Certification
- Court Reporting
- Health Sciences  
Dental Assisting; Emergency Medical Technician Training; Medical Assisting, Public Safety Degree
- Organic Farming
- Education to Career (E2C)  
Adult Education Construction Program
- Summer Career Academies  
High School Academies
- Short-Term Career Training Programs (12 Weeks)  
Business Start-Up; Small Business Management: online selling, accounting, office applications, social media marketing

# Enrollments by Program (unduplicated)

2021-2022 Academic Year

2019-2020 N=139 and 2020-2021 N=24

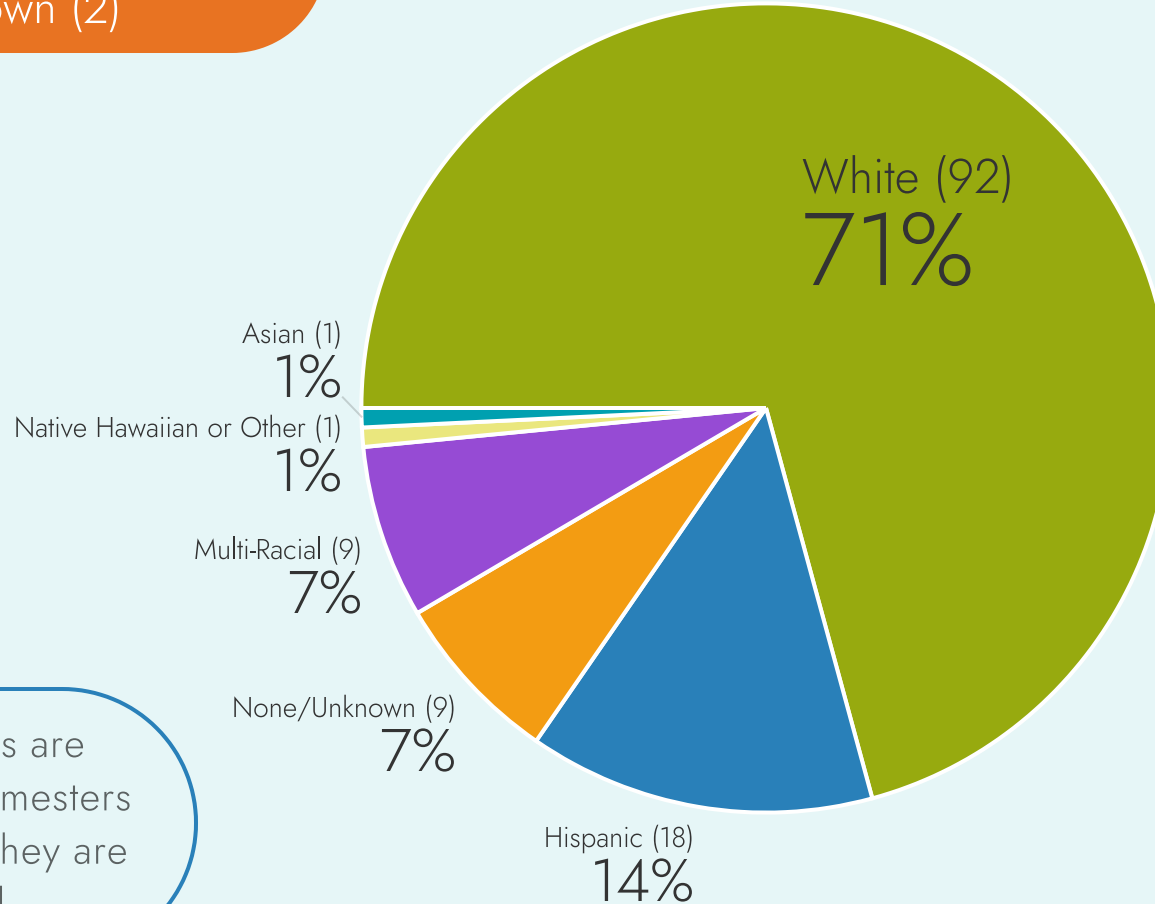


1,402 Total Career Ed. Student Count for 2021-2022

# Student Demographics

## MACH/WELD Program 2021 - 2022

88.5% Male (115)  
10% Female (13)  
1.5% Unknown (2)



The program numbers are aggregated over two semesters for MACH and WELD; they are not unduplicated.

### COLLEGE OF MARIN CREDIT STUDENT CHARACTERISTICS

**Gender: Male 39% Female 59%;**

Median Age: 24

Race/Ethnicity:

Asian: 538 (8%)

Black/African American: 219 (3%)

**Hispanic: 2,170 (31%)**

Multi-racial: 445 (6%)

Native American: 15 (0.2%)

Native Hawaiian/Pacific Islander: 13 (0.2%)

**White: 3,377 (49%)**



# Program Outcomes

MACH/WELD 2021 - 2022

## PERSISTENCE

Classes were closed in Spring 2020 due to COVID-19

### Persistence -

First Time Students

Fall 2021

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Program: **55.6%** average

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College: **73%** average

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The program registers a much lower persistence rate than the College's rate

## RETENTION

Course **Retention** by  
Gender (%)

Spring 2022

- Women **80%** in program
- Men **74.3%** in program

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### Program Course Retention Overall:

Fall 2021 - Spring 2022

**80%**

Slightly lower than the  
College average at **83.4%**

## SUCCESS

### Program Completions -

Awards in Machine and Metals  
Technology

in the Last 3 Academic Years

- **AS Degrees: 1**
- **Certificates: 2**

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### Successful Course Completion -

Fall 2021 - Spring 2022

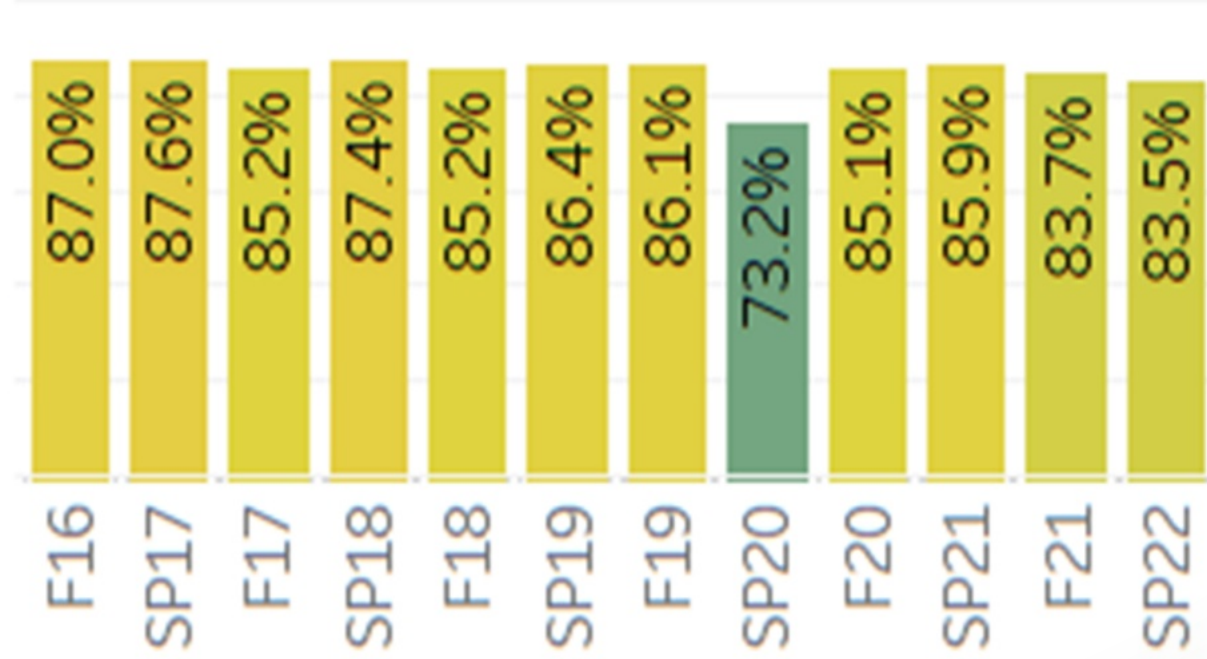
**82.5%**

Higher than the College's rate at  
**76.3%**



# Student Success Fall 2016-Spring 2022

## All Credit Courses



# Student Success Fall 2016-Spring 2022

by Student Type

	First time	New transfer	Returning	Continuing	CCP
F16	87.4%	88.0%	89.5%	88.0%	95.2%
SP17	81.5%	87.6%	83.4%	89.0%	92.7%
F17	82.7%	86.8%	84.9%	87.4%	95.1%
SP18	77.4%	86.5%	85.1%	89.0%	93.5%
F18	82.2%	84.5%	87.2%	87.8%	91.8%
SP19	82.8%	85.9%	85.7%	88.4%	92.1%
F19	83.6%	86.1%	81.6%	88.4%	91.7%
SP20	67.4%	74.8%	71.7%	76.3%	81.0%
F20	82.1%	88.0%	84.1%	86.2%	92.9%
SP21	80.4%	82.2%	84.2%	87.9%	90.8%
F21	82.0%	84.3%	86.7%	86.4%	91.7%
SP22	78.0%	78.3%	76.1%	85.0%	90.6%

Thoughts and  
Reactions?



# Labor Market Information

Heather Rahman, Program Coordinator Career Education

# Regional Labor Market Information

Sources: Centers of Excellence Demand Tables  
and O\*Net Online

Regional Counties:  
Marin, Napa,  
Sonoma, Solano, San  
Francisco and San  
Mateo, Contra Costa,  
Alameda

"Welders starting wage  
are typically higher with  
benefits."

Occupation	Average Annual Earnings	Annual Job Openings projected through 2028
CNC Machine Tool Operators	\$49,710 (23.90/hour)	175
CNC Machine Tool Programmers	\$80,020 (38.47/hour)	81
Machinists	\$58,570 (28.16/hour)	838
Welders, Cutters, Solderers and Brazers	\$58,620 (28.18/hour)	565

"Top-end  
employees will  
make significantly  
higher wages, even  
double."

<http://coeccc.net/>  
<https://www.onetonline.org/>

# Hiring and Staffing Needs

Grant Kerr, MACH Instructor

Padraig McGee, WELD Instructor



## PRIORITIES AND CURRENT LANDSCAPE

# Advisory Member Share Outs & Discussion



### Staffing and Recruiting

- Where do you find your candidates?
- **What wages can be expected for entry level positions?**



### Training & Professional Development

- What are the skills required? For which levels?
- Any emerging technology skills that should be considered?



### Community Partnership & Impacts

- How should we best prepare our students to be qualified and competitive?



### Needs and Priorities

- What are your current priorities and needs for hiring?



### Other Key Items?

- What should we be aware of to support our future students?
- Potential technology, training, or emerging sectors?

# Machine & Metals Technology

Grant Kerr, MACH Instructor









TM 2P



Position	Unit	Start/End
Axis	Start/End	Start/End
X	0.0000	0.0000
Y	0.0000	0.0000
Z	0.0000	0.0000
Axis	Position	Command
X	0.0000	0.0000
Y	0.0000	0.0000
Z	0.0000	0.0000

Clipboard with a document, possibly a work order or inspection sheet, attached to the control panel.



Technical specifications or safety instructions printed on the machine's cabinet.



# New Equipment *Implementation Topics:*

- \* Tooling
- \* Projects
- \* CAM software training
- \* Maintenance sources for older equipment

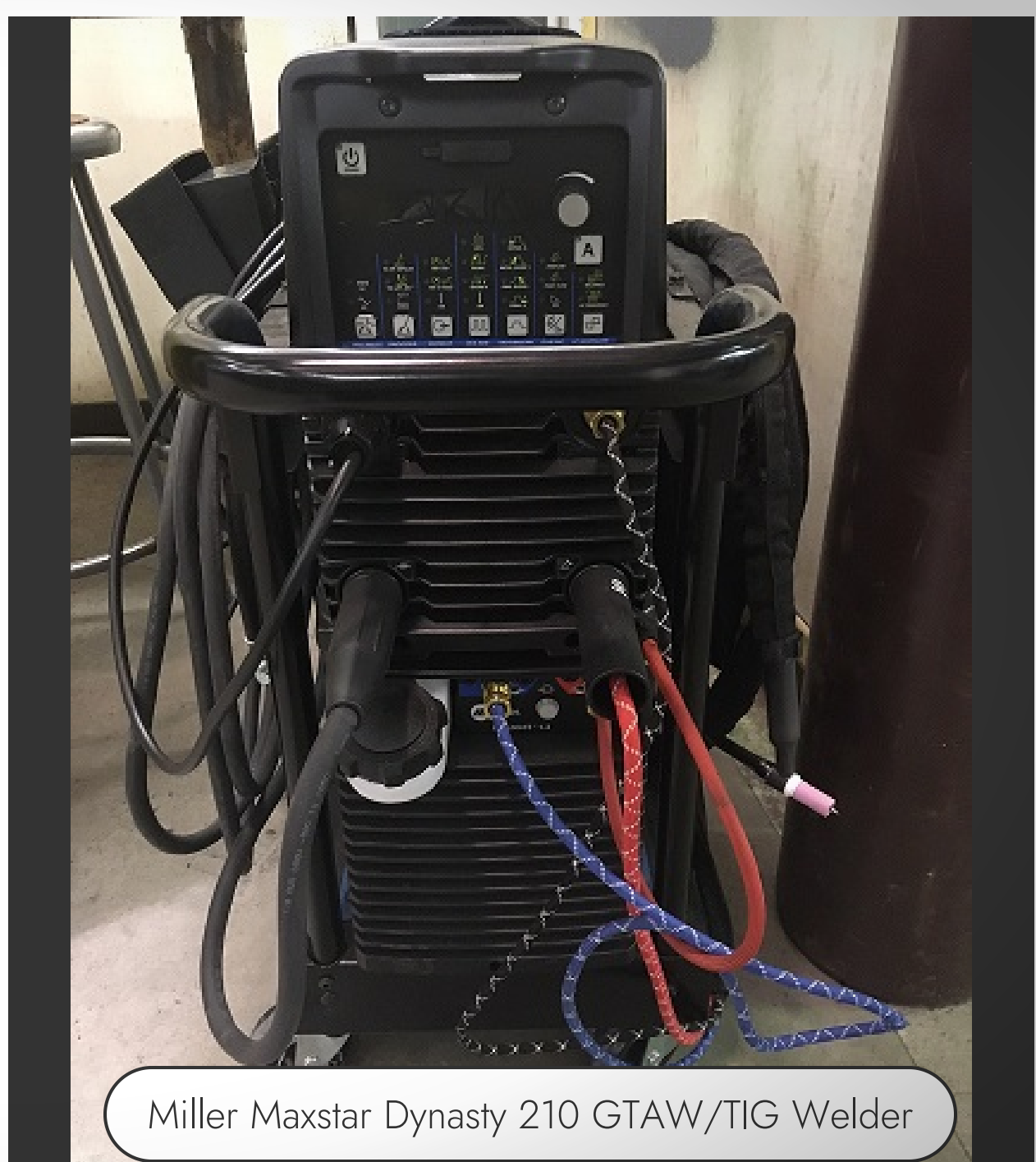


# Welding

Padraig McGee, WELD Instructor



Miller Dynasty 350 GTAW/TIG Welder



Miller Maxstar Dynasty 210 GTAW/TIG Welder





Millermatic 140 Auto-set

## Program Topics of Discussion

- Welding Equipment and Supplies
- Welding Skills Certificates (10 units)
- Certificate of Achievement, Welding (17 units)

# Certificate of Achievement, Welding Technician

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The Welding Technician Certificate of Achievement prepares the student for pre-apprentice positions in the welding industry. Required courses can be applied toward the AS degree.  
Certificate Requirements

- Weld 100 - Career Math and Precision Measurement - 4 Units
- Weld 101 - Introduction to Welding - 4 Units
- Weld 102 - Intermediate MIG Welding - 2 Units
- Weld 103 - Advanced MIG Welding - 2 Units
- Weld 104 - Intermediate TIG Welding - 2 Units
- Weld 105 - Advanced TIG welding - 2 Units
- Weld 106 - SMAW Welding - 2 Units
- Weld 107 - OFW and Welding Fabrication - 2 Units

Total Units: **20 Units**

## Skills Certificate in **TIG** Welding

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- Weld 101 - Introduction to Welding - 4 Units
- Weld 104 - Intermediate TIG - 2 Units
- Weld 105 - Advanced TIG - 2 Units
- Weld 106 - SMAW Welding or Weld 107 - OFW and Welding Fabrication - 2 Units

Total Units: **10 Units**

## Skills Certificate in **MIG** Welding

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- Weld 101 - Introduction to Welding - 4 Units
- Weld 102 - Intermediate MIG Welding - 2 Units
- Weld 103 - Advanced MIG Welding - 2 Units
- Weld 106 - SMAW Welding or Weld 107 OFW and Welding Fabrication - 2 Units

Total Units: **10 Units**

# College of Marin Welding Certificate

Last meeting: "Companies are willing to sponsor in [a] learn-as-you-go instruction, and companies will hire especially if the individual has a welding certification"

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By show of hands:

1. Should COM offer a Certificate of Achievement in Welding?
2. Should COM offer a TIG Skills Certificate for Welding?
3. Should COM offer a MIG Skills Certificate for Welding?
4. Should COM offer Welding as a pre-Apprenticeship program?



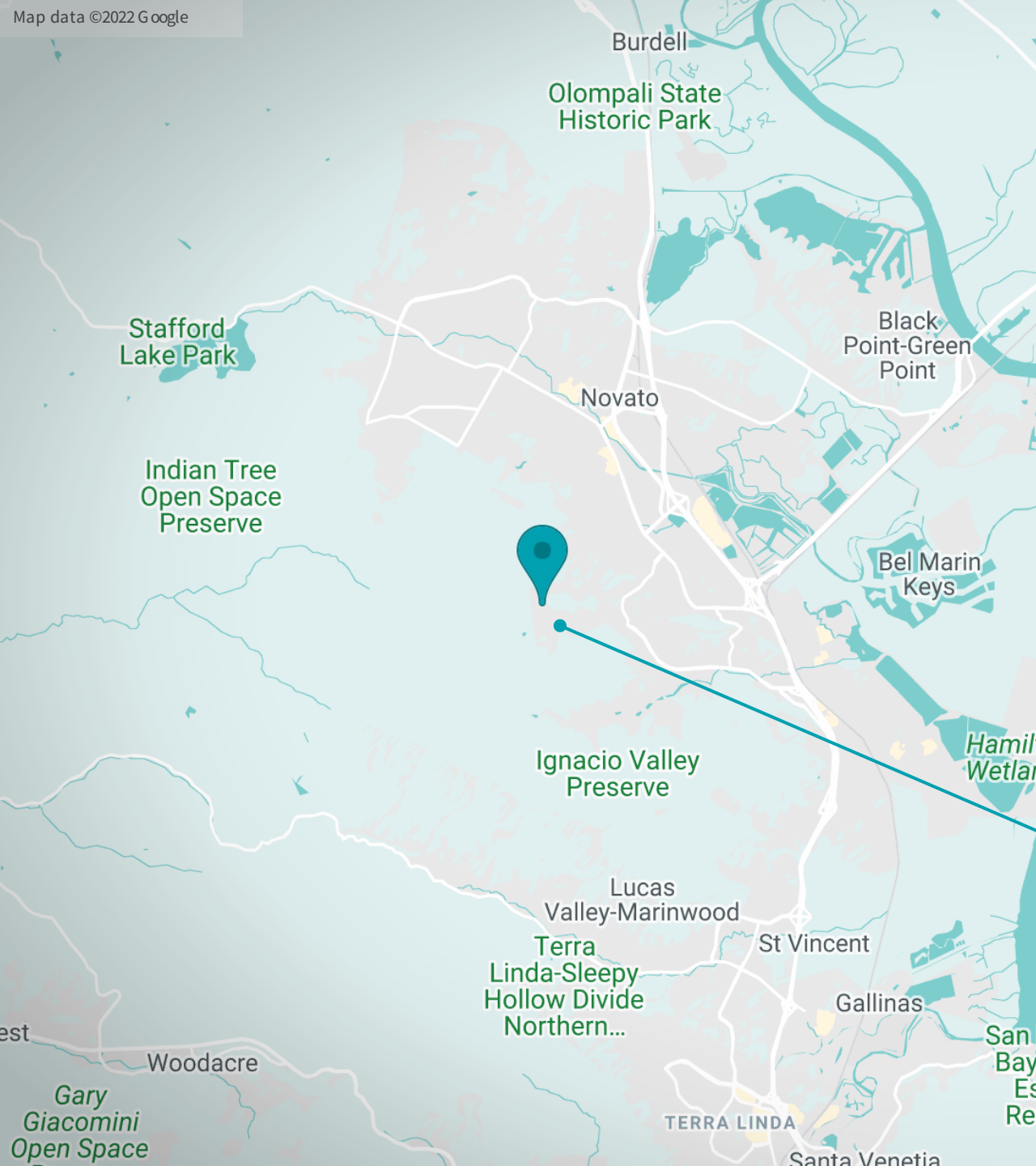


Summary/Wrap-up

Thoughts? **Questions?**

NEXT STEPS





# Thank You!

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- @ Grant R Kerr <gkerr@marin.edu>
- @ Ron Palmer <RPalmer@marin.edu>
- @ Padraig McGee <PMcGee@marin.edu>

**College of Marin, Indian Valley Campus**