

Meeting Employment Needs in Iowa

The Registered Apprenticeship Model

The Problem

- Over next decade, 3.5 million U.S. manufacturing jobs need to be filled
- Skills gap expected to result in 2 million of those jobs going unfilled
- 82% - skills gap will impact ability to meet customer demand
- 78% - skills gap will impact ability to implement new technology
- 90% - moderate to severe shortage of skilled production employees

Source: *"The skills gap in US manufacturing 2015 and beyond"*, Deloitte and Manufacturing Institute

The Solution

Find better ways to prepare the workforce to fill skilled jobs.

The Partners

- Regional Apprenticeship Sponsor
(Career Academy of Pella)
- Vermeer Corporation and other
participating employers
- Participating School Districts
- Des Moines Area Community College
- AEA Online
- U.S. Department of Labor
- Iowa Department of Education
- Iowa Workforce Development
- Iowa Governor's STEM Advisory
Council

In alignment with the Future Ready Iowa Initiative

The Plan - High School Registered Apprenticeships

Model:

- Identify skills necessary to be successful in specific careers
- Develop a pathway that ensures the development of those skills
 - Academic competencies
 - Job site competencies
- Market the pathway to students

The Picture

- Freshman and sophomore - Core and elective courses
- Junior - Core and apprentice training courses
- Summer - Initial employment/training
- Senior - 1/2 classroom (core and elective) and 1/2 employment
- Post-graduation - One year of employment

Career Academy of Pella Apprenticeship Details

*Indicates college credit course

9th Grade (A minimum of 7 classes required per semester)

| | Semester 1 | Semester 2 |
|--|--|--|
| Required Core Academic Skill Courses | <p>Core Math 1 or Math 1</p> <p>English 9 or English 9 Honors</p> <p>Physical Science</p> <p>American History or <i>American History AP*</i></p> | <p>Core Math 1 or Math 1</p> <p>English 9 or English 9 Honors</p> <p>Physical Science</p> <p>American History or <i>American History AP*</i></p> |
| Required Electives | PE | |
| Required Electives for Apprenticeships | | |
| Suggested Electives | <p>Exploring Industrial Technology</p> <p>Spanish 1</p> <p>Robotics 1</p> | <p>Fundamentals of Construction</p> <p>Spanish 1</p> |

10th Grade (A minimum of 7 classes required per semester)

| | Semester 1 | Semester 2 |
|--|---|---|
| Required Core Academic Skill Courses | <p>Core Math 2 or Math 2</p> <p>English 10 or English 10 Honors</p> <p>Chemistry</p> <p>World Geography or <i>Human Geography AP*</i></p> | <p>Core Math 2 or Math 2</p> <p>English 10 or English 10 Honors</p> <p>Chemistry</p> <p>World Geography or <i>Human Geography AP*</i></p> |
| Required Electives | PE | |
| Required Electives for Apprenticeships | Metal Design & Marketing | Health/CPR |
| Suggested Electives | <p>Spanish 2</p> <p>Robotics 2</p> | <p>Spanish 2</p> <p>Fundamentals of Welding</p> |

11th Grade (A minimum of 6 classes required per semester)

| | Semester 1 | Semester 2 |
|--|--|---|
| Required Core Academic Skill Courses | <p>Core Math 3 or Math 3</p> <p>English 11 or <i>College American Literature to 1865*</i></p> <p>Biology</p> <p>World History or <i>Western Civilizations 1*</i></p> | <p>Core Math 3 or Math 3</p> <p>English 11 or <i>College American Literature since 1865*</i></p> <p>Biology</p> <p>World History or <i>Western Civilizations 2*</i></p> |
| Required Electives | PE | |
| Required Electives for Apprenticeships | <i>Welding 1* - (2 High School Credits)</i> | <p><i>Welding 2* - (2 High School Credits)</i></p> <p><i>Care of/Use of Hand/Power Tools*</i></p> |
| Suggested Electives | <p>Psychology</p> <p>Introduction to Engineering & Design</p> | <p><i>Introduction to Psychology*</i></p> <p>Introduction to Engineering & Design</p> |

12th Grade (A minimum of 6 classes required per semester)

| | Semester 1 | Semester 2 |
|--|---|---|
| Required Core Academic Skill Courses | <i>Communication Skills*</i> | <i>American Government or American Government AP*</i> |
| Required Electives | PE | |
| Required Electives for Apprenticeships | | Financial Literacy |
| Suggested Electives | Business Principles & Ownership <i>Statistics*</i> | <i>Oral Communication*</i> |
| Workplace Training | <i>Metal Work-Workplace Experience*</i> <i>(3 High School Credits)</i> | <i>Metal Work-Workplace Experience*</i> <i>(3 High School Credits)</i> |

Workplace Requirements

| | Summer | Semester 1 | Semester 2 | Post Secondary |
|--------------------------|---|--|--|--|
| Following 11th Grade | Full time employee for approximately 8 weeks of 40 hours per week on the worksite for approximately 320 hours | | | |
| DMACC Course and Credits | MFG 818 - 5 Credits | | | |
| 12th Grade | | Part time employee approximately 20 hours per week on the worksite for approximately 360 hours | Part time employee approximately 20 hours per week on the worksite for approximately 360 hours | |
| DMACC Course and Credits | | SDV 221/226 - 6 Credits | SDV 221/225 - 5 Credits | |
| Post Secondary | | | | Full time employee for approximately one year |
| DMACC Course and Credits | | | | SDV 212/223 - 3 Credits MFG 510 - 3 Credits WEL 341- 6 Credits WEI 342- 6 Credits |

DMACC Associate of General Studies Degree

| # of Credits | Course |
|--------------|--|
| | Welding 1 and Welding 2 |
| 6 | Welding 1 (Electives) * <i>Welding 1 = 6 DMACC Credits (WEL 228 - 1 Credit, WEL 233 - 3 Credits, WEL 244 - 2 Credits)</i> |
| 8 | Welding 2 (Electives)* <i>8 DMACC Credits (WEL 245 - 2 Credits, WEL 208 - 2 Credits, WEL 236 - 2 Credits, WEL 238 - 2 Credits)</i> |
| 14 | Total Welding 1 & 2 Credits |
| | |
| | Completion of Apprenticeship (Electives) |
| 5 | MFG 818 - 5 Credits (Summer between junior and senior years) |
| 6 | SDV 212/226 - 6 Credits (Fall senior year) SDV 212 - 1 Credit, SDV 225 - 5 Credits |
| 5 | SDV 212/225 - 5 Credits (Spring senior year) SDV 212 - 1 Credit, SDV 225 - 4 Credits |
| 18 | SDV 212 - 1 Credit, SDV 223 - 2 Credits, MFG 510 - 3 Credits, WEL 341 - 6 Credits, WEL 342 - 6 Credits (Post Graduation) |
| 34 | Total On-The-Job Credits |

DMACC Associate of General Studies Degree

| # of Credits | Pella High School Course |
|--------------|---|
| 1 | Power Tools (Electives) |
| 3 | Communication Skills (Communications) |
| 3 | Intro to Psychology (Social and Behavioral Sciences/Humanities) |
| 4 | Statistics or DMACC online course (Math/Science) |
| 3 | Distributed Requirement (IED, Oral Communication, Elementary Spanish 1) |
| Minimum 2 | 2 Elective Credits |
| Minimum 16 | Total DMACC Credits through Pella High School |
| 64 Credits | DMACC AGS Credits Needed |

The Product

- High School Diploma
- National Career Readiness Certification
- American Welding Society Certification
- Apprenticeship Certificate
- Associate of General Studies Degree (optional)
- Career Readiness / Employment

Program Opportunities

Areas being pursued:

- Welding (2018-19 school year)
- Engineering Technician (2019-20 school year)
- Certified Nursing Assistant (2019-20 school year)
- Culinary Arts (2019-20 school year)

The Future

Increase...

- available labor force
- opportunities for business to thrive and expand
- opportunities for people to live and work in Iowa
- economic development