

# Iowa STEM BEST Webinar:

The Scoop on High School Registered Apprenticeships

## Welcome!



Please mute your microphone.



Share your name and where you are from in the chat.



Share questions in the Q&A.

Applications Open in Spring of 2021

GREATNESS  
STEMS  
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GOVERNOR'S STEM ADVISORY COUNCIL

STEM BEST®

For more information, contact Project Coordinator Tanya Hunt at [Hunt@IowaSTEM.gov](mailto:Hunt@IowaSTEM.gov)  
or visit:

[www.IowaSTEM.gov/STEMBEST](http://www.IowaSTEM.gov/STEMBEST)



The STEM BEST® Program provides up to \$25,000 to Iowa public and non-public school districts and buildings for models that demonstrate business-education partnerships and provide work-based learning experiences for students.



The Iowa Governor's STEM Advisory Council has awarded 65 STEM BEST® programs since 2014.



Working side-by-side, teachers and industry professionals will craft curriculum and projects that prepare students for exciting career pathways in STEM fields.



An 1:1 match of cash and/or in-kind support is required and can be contributed by the applicant or a community partner.



Past STEM BEST® award recipients are eligible to apply for expanding current programs.



# Iowa STEM BEST Webinar:

The Scoop on High School Registered Apprenticeships

Featuring:



**Amy Beller,**  
Registered  
Apprenticeship Program  
Coordinator, Iowa  
Workforce Development



**David Ottavianelli,**  
Strategic Workforce  
Projects, John Deere



**Greer Sisson,**  
State Director, U.S.  
Department of Labor/  
Office of Apprenticeship



**Teri Vos,**  
Director, Work-Based  
Learning, a community  
collaboration based at  
Central College



**Andy Zinn,**  
Vocational Welding  
Trainer, Davenport West  
High School

Welcome and introductions

Current status of High School Registered Apprenticeships in Iowa

Advice from Peers: What it's like to launch a High School Registered Apprenticeship Program

Supports and Resources – Friends and Funds

Q&A

# Current State of Registered Apprenticeship in Iowa

**RA Programs: 789**

**Registered Apprentices: 7,736**

**Participating High Schools: 30**

**Registered High School Programs: 22**





# Core Components of Registered Apprenticeship

## Employer Involvement is Integral

The **employer** is the foundation for the RA program and must be directly involved and **provide paid On-the-Job Learning**

## Structured, Paid On-the-Job Learning

Minimum of 2,000 hours; **Structured and Supervised**

## Job Related Educational Instruction

**144 hours recommended per year**

Parallel | Front-loaded | Segmented Options

## Rewards for Skill Gains

Increases in skills brings about increases in earnings

## National Occupational Credential

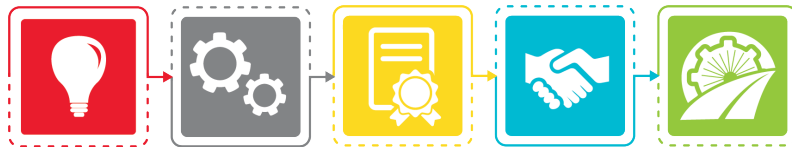
Nationally recognized credential showing job proficiency. The Industry certifies individual is at the full performance level for the occupation.



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## GOVERNOR'S STEM ADVISORY COUNCIL

dedicated to building a strong STEM education foundation for all Iowans



WorkSMART  
connector





## GOVERNOR'S STEM ADVISORY COUNCIL

dedicated to building a strong STEM education foundation for all Iowans



The Iowa Governor's STEM Advisory Council is a proud contributor to the mission of Future Ready Iowa.

HOME EDUCATORS STUDENTS PARENTS CORPORATE PARTNERS SPECIAL PROJECTS STEM COUNCIL

### High School Registered Apprenticeship Playbook

The following playbook was developed to help guide Iowa employers, high schools and students through the process of implementing a Registered Apprenticeship program in local communities.

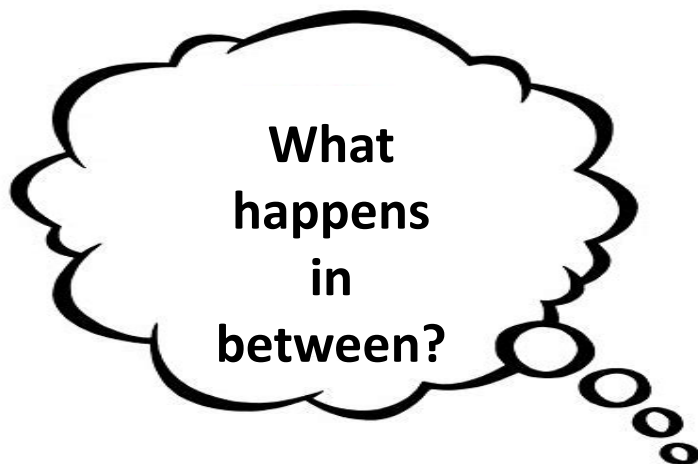
### VIEW PLAYBOOK

#### Contents

- [Contacts](#)
- [Explaining Employment Needs and the Registered Apprenticeship Solution](#)
- [The Business Process](#)
- [Business-conducted Mentor and Manager Training](#)
- [Career Academy-conducted Mentor and Manager Training](#)
- [Department of Labor Registered Apprenticeship in Welding Contract](#)
- [Registered Apprenticeship Brochure](#)
- [Acknowledgements](#)

Additionally, the National Alliance for Partnerships in Equity produced a free toolkit designed to assist leaders from K-12, higher education and the workforce to build an scale equitable youth apprenticeship programs. [Click here](#) to download the toolkit.





iowa.gov Services Agencies Social

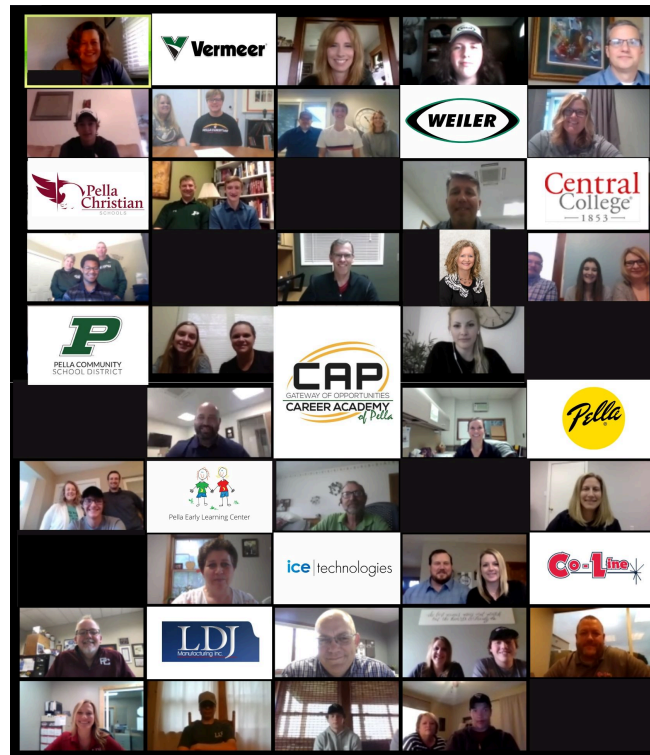
OFFICE OF THE GOVERNOR OF IOWA  
**Kim Reynolds**

Coronavirus Information Voter Rights Restoration Contact

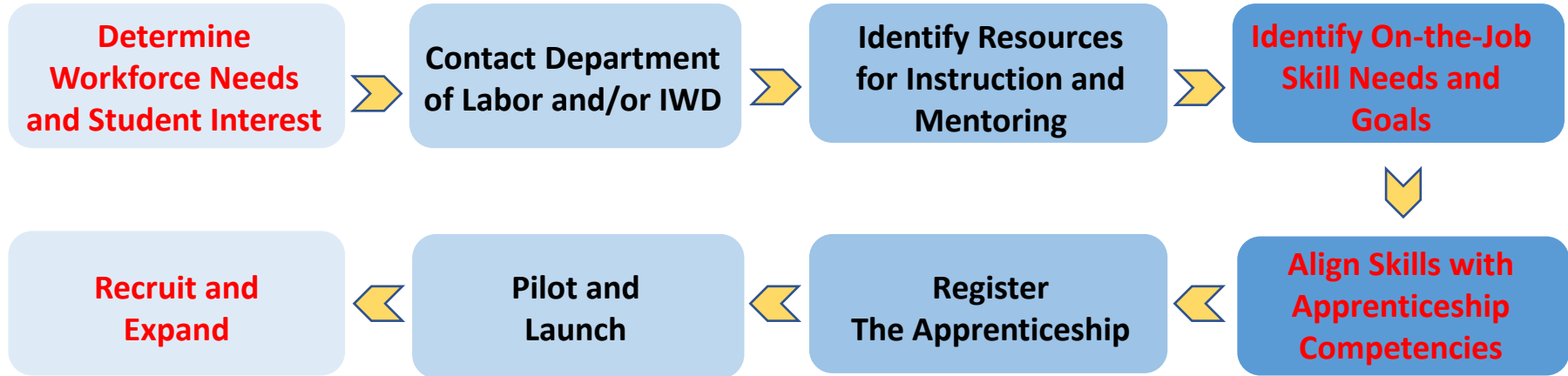
Office of the Governor Vision for Iowa Newsroom Requests and Applications

## Gov. Reynolds, Lt. Gov. Gregg unveil High School Registered Apprenticeship Playbook

Tue, 06/12/2018 - 11:15



# The (Exciting) Journey



# Workforce Needs

ESTIMATED RED ROCK AREA TALENT  
ANNUAL DEMAND BASED ON LAST 5-YEARS



## Occupations - Highest to Lowest Demand:

- General Assembly
- **Welding**
- Machining & Maintenance
- **Personal Care/Healthcare**
- Woodworking/Operators
- Laborers & Mat'l Movers
- **Engineering Technicians**
- Customer Service Reps
- Machine Tool Setup / Operators
- Industrial Engineering
- Machinist
- Stock Clerks & Order Filers

~150 Opportunities per Year within Responding Employers

# Workforce Needs & Student Interest

## From Students

- Exposures are important.
- Desire more variety of career exposures.
- Key Influencers: Teachers, Parents, Mentors.
- Key Exposures: Classes, business tours, career day was impactful.
- Key Experiences: Sophomore career paper, jobs, volunteer opportunities, job shadows (Winterim).
- Young people need reassurance & at times to be pushed to further explore.
- Value Career Academy programs.

## From Businesses

- Shortage of top talent
- Help young people understand they can build careers in any size business, and close to home.
- Need concise communication skills.
- Do we talk about jobs in high school or focus too much on careers?
- Help young people understand a choice now does not have to be forever.
- We should involve parents.
- Willing to mentor, allow job shadows, etc.



# Align Skills, Competencies & Goals

## GOALS

- # of students completing apprenticeships & certifications
- # of program hires into high-need areas (& at what stage of ed.)
- # of workforce in program leadership/development roles

		Place a check mark in the box when complete.			
Gas Metal Arc Welding – 0.035" diameter electrode		Field Training	Demonstrates Fundamentals	Proficient in Task	Completion Date
1.	Weld a 3/16" (0.2") [5 mm] horizontal fillet weld in T joint in the horizontal position in a straight line				
2.	Weld a 5/16" (0.3") [8 mm] horizontal fillet weld in Lap joint in the horizontal position in a straight line				
3.	Weld square groove butt joint in the flat position				
4.	Weld flare bevel groove T joint in the flat and horizontal positions				
5.	Weld a 3/16" (0.2") [5 mm] horizontal fillet weld in T joint in the horizontal position around a small diameter pipe				
6.	Weld a 5/16" (0.3") [8 mm] horizontal fillet weld in T joint in the horizontal position around a small diameter pipe				
Gas Metal Arc Welding – 0.045" diameter electrode		Field Training	Demonstrates Fundamentals	Proficient in Task	Completion Date
7.	Weld a 5/16" (0.3") [8 mm] horizontal fillet weld in T joint in the horizontal position in a straight line				
8.	Weld a 3/8" (0.4") [10 mm] horizontal fillet weld in T joint in the horizontal position in a straight line (2 pass)				
9.	Weld a 1/2" (0.5") [13 mm] horizontal fillet weld in T joint in the horizontal position in a straight line (3 pass)				
10.	Weld a 5/16" (0.3") [8 mm] horizontal fillet weld in T joint in the horizontal position around a small diameter pipe				
11.	Weld bevel (single, Vee, flair) groove welds in the flat position				
Hoist and Rigging		Field Training	Demonstrates Fundamentals	Proficient in Task	Completion Date
12.	Safety procedures				
13.	Use of straps, cables, chains				
14.	Use of lifting devices				
15.	Estimation of load weights and center of gravity				
16.	Moving, loading, and manipulation of loads				
Jigs and Fixtures		Field Training	Demonstrates Fundamentals	Proficient in Task	Completion Date
17.	Verify shape of metal parts according to blueprints				
18.	Assemble metal parts in jigs and fixtures				
19.	Tack parts together				
Safety		Field Training	Demonstrates Fundamentals	Proficient in Task	Completion Date
20.	Safety procedures and practices				
Lean Manufacturing		Field Training	Demonstrates Fundamentals	Proficient in Task	Completion Date
21.	Principles of 5S				
22.	Weld to takt time				
23.	Continuous Improvement Participation				

# Recruit & Expand

Focused  
Exploration

Beginning  
Preparation

Full-Time  
Placement

3-yr  
Retention

**Broad Career Visibility**  
2<sup>nd</sup> – 9<sup>th</sup> Grade

**Pathways that Connect**  
8<sup>th</sup> – 11<sup>th</sup> Grade

**Preparing Talent**  
10<sup>th</sup>-12<sup>th</sup> Grade +

**Early Careers in IA**

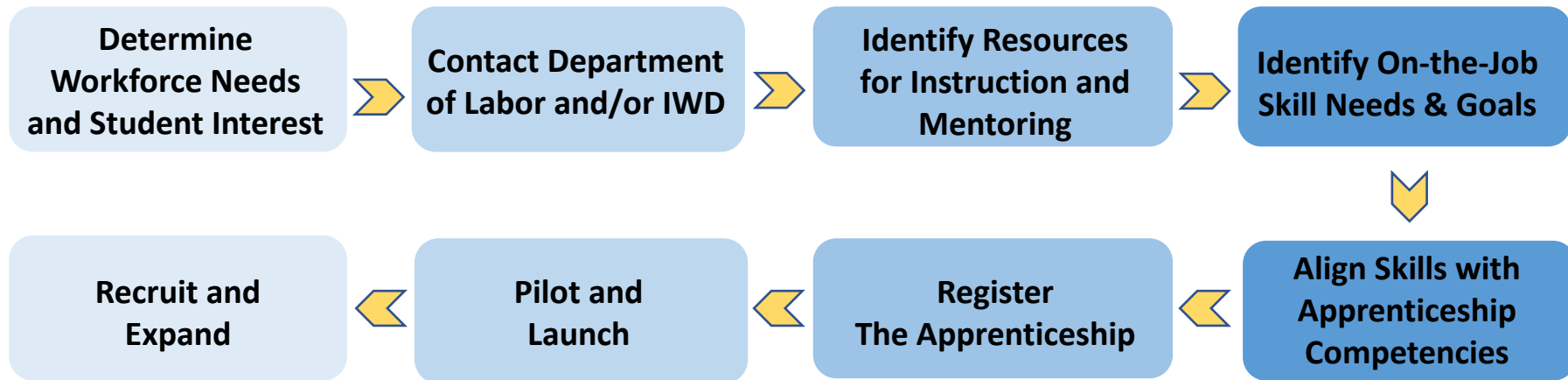
Career Awareness

Career Exploration  
& Mentoring

Work-Based  
Learning

Employment &  
Personal Growth

# The (Exciting) Journey...



***Thank You!***  
***vost@central.edu***



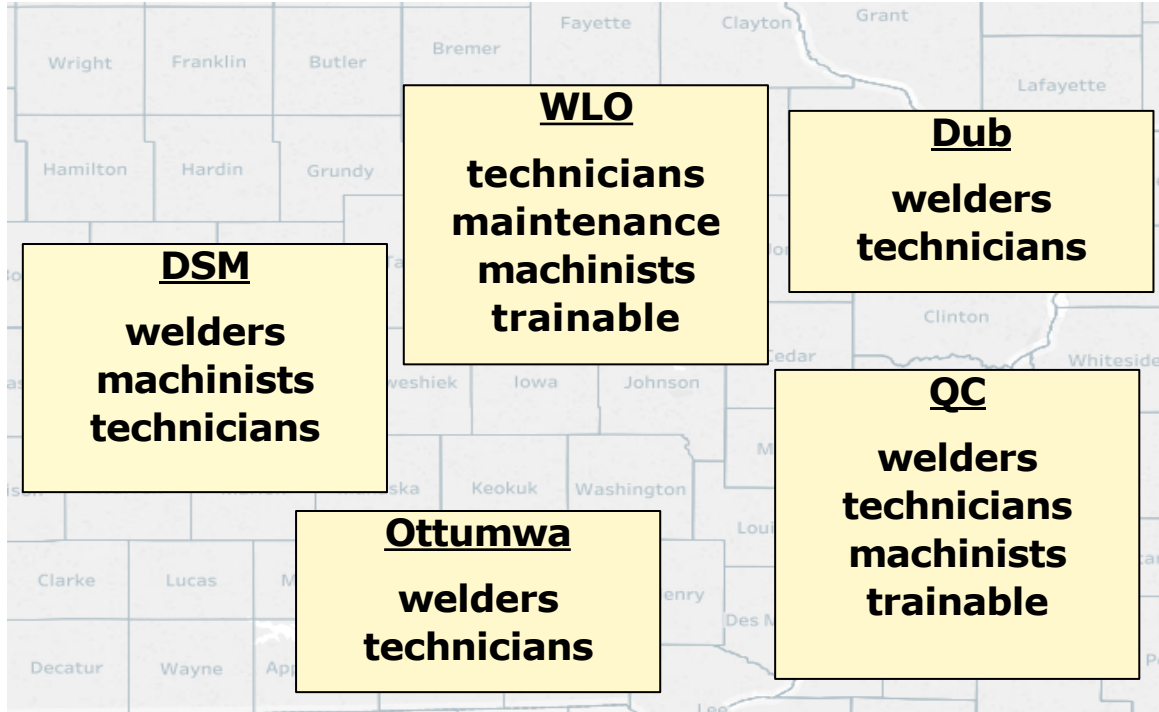
# **High School Student Apprentice Programs - A Business Perspective**

**David Ottavianelli**

# Workforce Needs Study Findings

Long-term (5-10 years) a concern

- Population lowering ↓
- Age ↑
- Unemployment levels →



# Top Action Item – Increase Student Pipeline

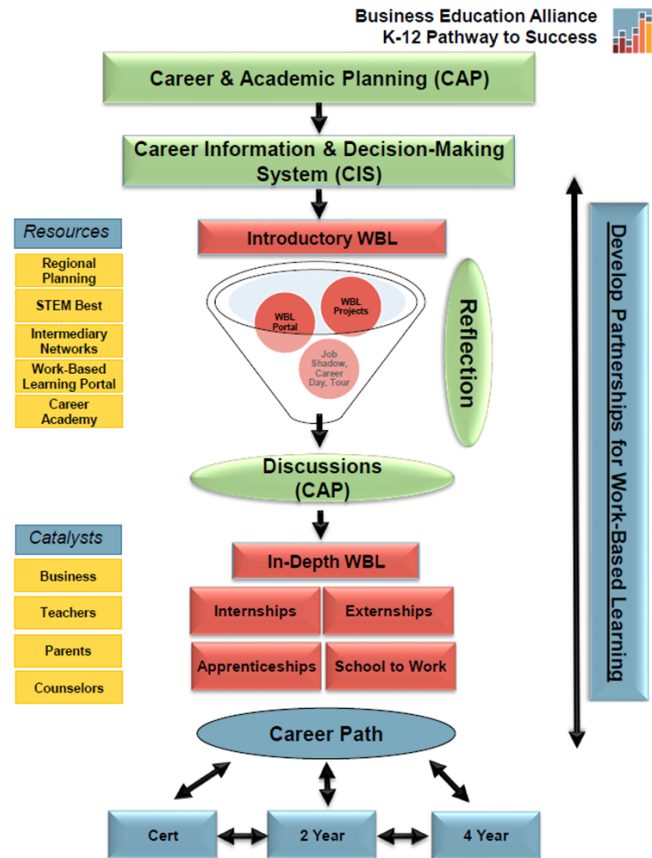
Establish relationships with students

- Talk with students early - i.e. 8<sup>th</sup> grade
- Market the vision of “success”
- Employment opportunities up completion of milestones

Partnership with key community stakeholders

- High schools, community colleges, local businesses

Consider all options for students





# Apprentice Signing Day – Davenport and North Scott Schools

On 2 May 2019, nine high school juniors from the Davenport and North Scott Schools, officially signed on as Registered Welding Apprentices with four local business partners:



*"This is probably going to be the highlight of my life for a while. From here, I can go from an apprenticeship to a full-time employee with benefits. I'm looking forward to that."*

Nick Kilker, North Scott Student



# High School Student Apprentice Program Lessons Learned

Company/student match is important

Lots of questions answered

- HR policies, insurance, etc.
- Current employees welcomed students

Students

- Want to learn/do more
- Overall strong welders - a few technical gaps
- Behavioral competency development
- Full time employment opportunities



# Long-term HS Apprentice Program Potential @ DE

2019: 6 welders

2020: 19 total at Deere

## Beyond 2020 Aspirations/Potential Growth

- Welding: 26 per year
- CNC: 12 per year
- Adv Manufacturing/Smart Industrial Quality Pre-apprentice Program ~ 70 annual total

***Total annual sum potential = ~108 students ready to enter the workforce***

# How to Get Started

Discuss with School Administration

Call/Email DOL – Greer Sisson

- Create draft standards

Meet with Key stakeholders on the plan

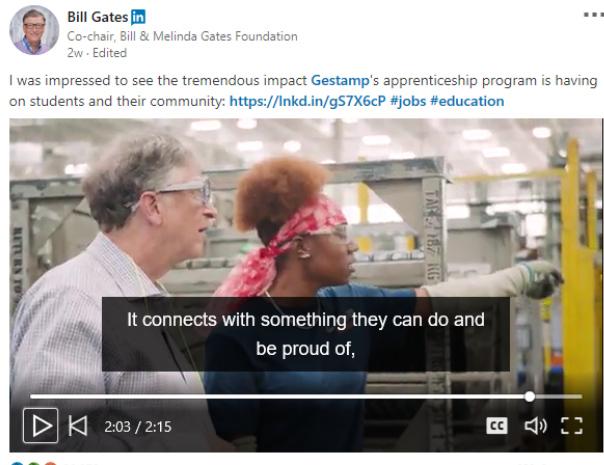
- School, businesses, community college
- Set-up meeting cadence
- Backward planning from WBL start date – 1 June 21

Leverage best practices at other schools – Call us if you need help!

Give it a try - Start small (pilot), then grow

- 1 x student and 1 x business

## Bill Gates Apprentice Video



“This is a company realizing it can **foster the talent that it needs from the local community**. It is a lot **more efficient** to work with your local resources rather than try to bring them in from other areas.”

“There are a lot of **intelligent, hard-working** people who are looking for someone to believe in them.”

# RAP Nitty Gritty: **Set Up**

- Find a long term funding source for program, a stand alone budget (*dual enrollment* \$).
- Supplemental pay for leaders.  $\$7000 \text{ state money} / 16 \text{ blocks per year} = \$437.50 \text{ per block student cost to district. } 8 \text{ blocks "at work"} \times 437.50 = \$3500$
- Include a “paperwork” person on the team.
- Choose “Related Training” Very Carefully
- Sell RAP as a customized employer program. Know your customer!
- Find a start up template! <https://www.earnandlearniowa.gov/programs>

# RAP Nitty Gritty: **Execution**

- Ensure proper pre-req's for Apprenticeship *(not a Dad's Club Program)*
- Don't overwhelm partners with packet. *(25 pages...need 5)*
- Address employer expectations. *(kids are still kids...opportunities are the difference)*
- "Match-making" required between (student/company)  
*(process: group field trip, job shadow, extended job shadow)*
- "Match making" required between student/ job site mentor  
*(Need a "student friendly" mentor...somebody who has had teenagers recently is a good choice)*

# RAP Nitty Gritty: **Follow Through**

- Multiple POC's at company (*turnover*)
- Explain "Insulation" Process (*multiple coaches*)
- Be flexible to company needs (*shifts, weekends, other skills*)
- Site Visits
- Don't lose the relationship with student



# NATIONAL APPRENTICESHIP WEEK WEBINAR



BUILDING SKILLS,  
EXPANDING OPPORTUNITY



## Federal and State Funding

### Iowa Registered Apprenticeship Act - 15B

Formula funds based upon contact hours.  
<https://www.iowaeda.com/grow/apprenticeships/>

### Future Ready Iowa Registered Apprenticeship Development Fund – 15C

Competitive grant funds \$25,000 per eligible high-demand occupation and up to \$50,000 for two or more eligible occupations  
<https://www.iowaeda.com/grow/apprenticeships/>

### Urban Institute

\$1,000 per Registered Apprentice, Tech occupations  
<https://www.urban.org/policy-centers/center-labor-human-services-and-population/projects/youth%20apprenticeship-intermediary-project>

### SAE 2020 Business Incentives

\$1,500 per a Registered Apprentice  
<https://www.earnandlearniowa.gov/business-incentive-application-form>

### Future Ready Iowa Employer Innovation Fund

Competitive grant funds for RA Sponsors to carry out creative solutions that address workforce issues in high-demand jobs.  
<https://www.futurereadyiowa.gov/innovation>



## Presentators Contact Information

**Greer Sisson - State Director, U.S. Department of Labor/Office of Apprenticeship**  
sisson.greer@dol.gov

**Amy Beller – RA Program Coordinator, Iowa Workforce Development**  
amy.beller@iwd.iowa.gov





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Please share your questions using the Q&A button in Zoom



GOVERNOR'S STEM ADVISORY COUNCIL

dedicated to building a strong STEM education foundation for all Iowans

## Live Twitter Chat - Thursday, November 12 at 7:00 PM

"The Scoop on High School Registered Apprenticeships in Iowa"

### HOW TO

In Twitter, follow @IowaSTEM

Use the reply icon to answer.

Use A1, A2, A3, A4 in your answer so we know which Q1-4 you are answering.

Tag all tweets with #IASTEMchat

Hashtag your grade level and subject  
#elem #MS #HS

Hit refresh often to see new posts.

### TOPICS

Where are Iowa's current High School Registered Apprenticeships and how many apprentices are involved?

What are the skill-areas of Iowa's current High School Registered Apprenticeships?

What are the benefits of the High School Registered Apprenticeship program in Iowa?

What are the challenges of launching a High School Registered Apprenticeship program that the STEM Council can help to address?

**GOAL:** To connect STEM educators and communities for sharing ideas and resources that strengthen STEM learning experiences for all Iowans.



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# Thank you!

[www.iowaSTEM.gov](http://www.iowaSTEM.gov)