

# Division of Career and Adult Education

Forum on Engineering Technology  
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## Creating the Next Generation Occupation Standards for Career & Technical Education

Florida Department of Education  
Division of Career and Adult Education

### Creating the Next Generation Standards for Career & Technical Education Programs is Important to Florida's

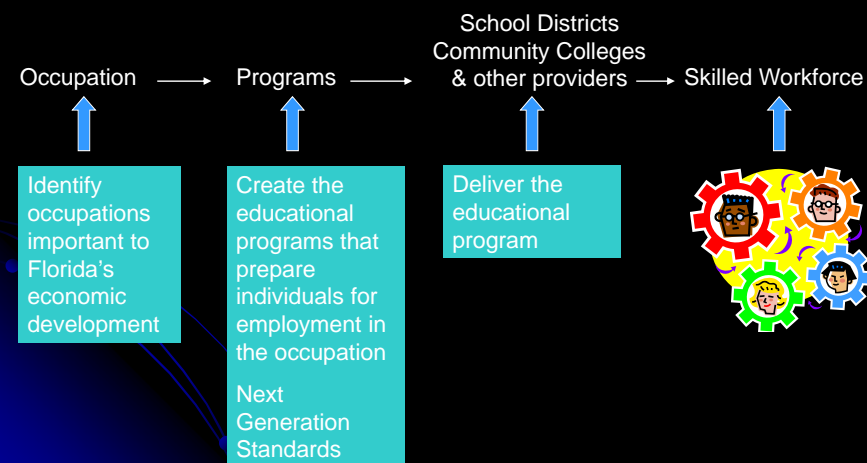
#### ● Economic Development

- #1 issue identified by business/industry seeking to relocate or expand their business in Florida:  
**Is the skilled workforce or "talent" available**
- Ensuring that Florida's career and technical education program standards are aligned with the needs of business and industry is a major component

#### ● Citizens

- Seeking educational opportunities that will prepare them for high-skill, high-wage, high-demand occupations

### In order to ensure that Florida has the skilled workforce to "grow" the economy:



# The Division of Career and Adult Education is responsible for:

Developing the educational programs that will prepare individuals for the occupations that are important to Florida's economic development.

## The Goal:

*Align Workforce Education Programs with Skill Requirements of the New Economy*

**Right Occupations      Right Programs  
Right Time**

# Division of Career and Adult Education

- Career and Adult Education has the responsibility for the development of curriculum frameworks for career and technical education programs from middle school through AS degrees

## Career Clusters

Agriculture, Food & Natural Resources Curriculum Consortium	Architecture & Construction Curriculum Consortium	Arts, A/V Technology & Communication Curriculum Consortium	Business, Management & Administration Curriculum Consortium
Education & Training Curriculum Consortium	<b>Energy Curriculum Consortium</b>	Health Science Curriculum Consortium	Hospitality & Tourism Curriculum Consortium
Human Services Curriculum Consortium	Information Technology Curriculum Consortium	<b>Manufacturing Curriculum Consortium</b>	Marketing, Sales & Service Curriculum Consortium
STEM Curriculum Consortium	Financial Services Curriculum Consortium	Law, Public Safety & Security Curriculum Consortium	Transportation, Distribution & Logistics Curriculum Consortium
Government & Public Administration Curriculum Consortium			

## Today's Students, Tomorrow's Workforce

*Enterprise Florida Targeted Sectors for Economic Development*



### Life Sciences

- Nursing (CNA, LPN, RN)
- Emergency Medical Technician
- Paramedic
- Dental Hygiene
- Respiratory Care
- Surgical Technology
- Patient Care Technician
- Nursing Assistant/Long-Term Care
- Biotechnology Laboratory Technician

### Manufacturing

- Drafting & Design Technology
- Manufacturing Technology
- Computer Electronics Technology
- Machining
- Sheet Metal Fabrication Technology

### Information Technology

- Computer Information Administrator
- Computer Programming & Analysis
- Network Administrator
- Computer Programming
- Internet Services Technology
- Web Development Specialist
- Multimedia Design Technology

### Homeland Defense/Security

- Criminal Justice Technology
- Law Enforcement Officer
- Correctional Officer
- Fire Science Technology
- Civil Engineering Technology

### Financial/Professional Services

- Accounting Technology
- Business Administration
- Office Administration
- Administrative Assistant
- Medical and Legal Administrative Specialist
- Court Reporting/Voice Writing Technology

### Aviation/Aerospace

- Aviation Administration
- Aerospace Technology
- Aircraft Airframe Mechanics
- Aircraft Power Plant Mechanics
- Avionics

## Division of Career and Adult Education

- Each program curriculum framework includes the technical and academic skills that are essential to the career/occupation.

*“What a student needs to know and be able to do.”*

- The development of each curriculum framework must involve all stakeholders, with business and industry taking the lead in identifying the required technical and academic skills

## Curriculum Development and Revision Process

- Florida law requires programs be updated at least every 3 years
- In the past, staff has worked with partners to update existing programs and develop new programs
- However, the process has not been comprehensive, consistent, inclusive or as transparent as it should be

## The Process for Creating the Next Generation of Standards for Career & Technical Education Programs

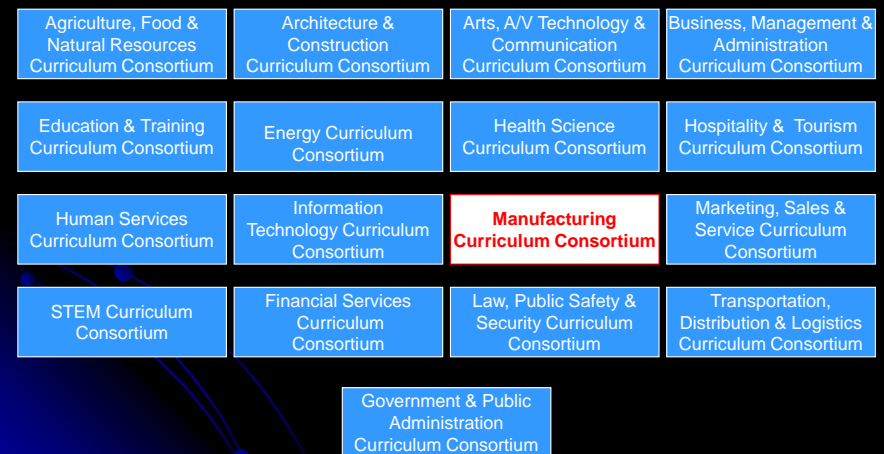
### Guiding Principals

The Process will be:

- Driven by business and industry
- Inclusive/all stakeholders
- Comprehensive
- Consistent
- Transparent
- On-going

### Next Generation Standards for Career & Technical Education Development Process

#### Steering Committee



## Next Generation Standards for Career & Technical Education Steering Committee

The role of the Steering Committee is to:

- Provide guidance to and oversight of the entire process
- Approve the program of work for each career cluster

## Career Cluster Working Group\* Representation

- Business/Industry
- Professional/Trade Association(s) representing business and industry
- Regional Workforce Board
- Banner Center (if available)
- Local/Regional Economic Development Organization
- Regulatory Agency(ies)
- Secondary Sector
- Postsecondary School District Sector
- Community College Sector
- DOE Cluster State Supervisor (staff)

\* Each working group will be chaired by a business/industry representative and co-chaired by an educator.

## Team

- **Don Gugliuzza**, Chairman:– Mileo and Associates, Inc., Suncoast Workforce Board - Region 18
- **Dr. Eric Roe**, Co-Chair:– Banner Center for Manufacturing

### Industry Members

- **Mason Jackson** - President/CEO, Workforce One - Region 22
- **Steve Kullberg** – General Manager, Florida's Natural Growers
- **Ruly A. Lopez** – Area Manager, Rockwell Automation
- **Art Hoelke** – Vice President/General Manager, Knight's Armament Company
- **Brian O'Connor** – Director, Lockheed Martin Missiles and Fire Control
- **Marilyn Barger, Ph.D., P.E.**– Executive Director, FLATE
- **Rod Jaeger** - President/CEO, Jaeger Corporation

## Team (cont.)

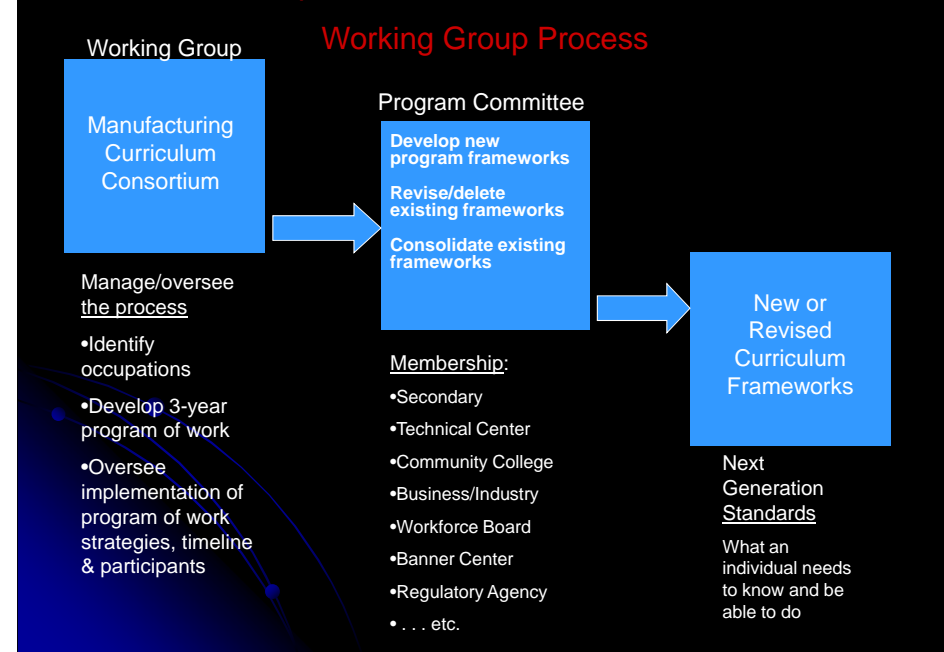
### Education Members

- **Doug Wagner** – Director, Adult, Career and Technical Education, Manatee District Schools
- **Tammy Mandell** – Asst. Director, Education and Training, Banner Center for Biotechnology
- **Kathie Schmidt** – Director / Career and Technical Education, St Lucie District Schools
- **Stanley Sidor** – Associate Vice President, Daytona State College
- **Eric Owens** – Department of Education

# Goals for Working Committee

- Review information regarding occupations that are important to Florida's economic development
- Compare with occupations (programs) that are currently available in Florida's public educational system
- Identify occupations we should be preparing for and frameworks that need revising
  - New programs to be developed
  - Frameworks to be revised
- Develop a 3-year program of work

## Example of Career Cluster Consortium



# Three Year Program of Work

- **2009-'10**
  - Create frameworks for "Automation and Production Technology" at Secondary/PSAV level
    - Charge FLATE with the building of the curricula frameworks along with new team members
  - Review and revise the Industrial Management Technology AAS/AS framework
  - Review clusters in STEM for revision into Manufacturing Cluster
  - Recommend elimination of AAS/AS Manufacturing Technology framework
- **2010-'11**
  - Add revised STEM clusters into Manufacturing Cluster
  - Create frameworks for "Quality Tech" at Secondary/PSAV
    - Charge the Banner Center for Biotechnology with demonstrating industry demand and differentiating QA and QC.
    - Charge FLATE with the building of the curricula frameworks along with the Banner Centers for Biotechnology and Manufacturing and new industry team members
  - Create new frameworks for emerging occupations (Green, etc)
  - Consolidate and revise these Frameworks
    - Secondary/PSAV
      - Machining/Precision Metal Fabrication/Sheet Metal Fabrication Technology
    - PSAV only
      - Electrical and Instrumentation Technology/Electromechanical Technology/Engineering Related Technology
      - Mine Safety and Health/Occupational Safety and Health
- **2011-'12**
  - Consolidate this Framework
    - Secondary/PSAV
      - Commercial Business Machine Maintenance/Consumer Electronic Product Servicing
  - Begin new three year plan

PROGRAM NAME	TYPE	ENROLLMENT	INSTITUTIONS
Aerospace Technology	AAS (0615080100) AS (1615080100)	7 68	Brevard
Biomedical Engineering Technology	AAS (0615040101) AS (1615040101)	66 89	Broward, Fl SC at Jax, Hillsborough, Miami Dade, Santa Fe
Biotechnology	AAS (0626061600) AS (1626061600)	152	Miami Dade, Santa Fe
Biotechnology Specialist	CCC (0626061602)	6	Miami Dade
Chemical Technology	AAS (0641030100) AS (1641030100)	314	Brevard, St. Johns River
Chemical Laboratory Specialist	CCC (0641030101)	6	Brevard, St. Johns River
Scientific Workplace Preparation	CCC (0641030102)	None	Brevard
Computer Integrated Manufacturing Technology	AAS (0615049901) AS (1615049901)	19 40	Fl SC at Jax, Gulf Coast, St. Petersburg
Computer Automation Technology	CCC (0615049904)	None	None
Electronics Engineering Technology	AAS (0615030310) AS (1615030310)	387 421	Brevard, Broward, Chipola, Daytona St, Gulf Coast, Hillsborough, Indian River, SCF Manatee-Sarasota, Miami Dade, Northwest FL, Palm Beach, Pensacola, St. Petersburg, Seminole, South FL, Tallahassee, Valencia
Basic Electronics Technician	CCC (0615030309)	44	Indian River, St. Petersburg, Valencia
Electronics Technician	CCC (0615030309)	28	Hillsborough, Indian River
Robotics and Simulation Technician	CCC (0615030314)	None	None
Laser and Photonics Technician	CCC (0615030311)	11	Indian River, Valencia
Solar Energy Technician	CCC (0615030317)	New	Gulf Coast
Industrial Management Technology	AAS (0606200101) AS (1606200101)	409 148	Broward, Daytona St, Fl SC at Jax, Hillsborough, SCF Manatee-Sarasota, Miami Dade, Northwest FL, Palm Beach, Pensacola, St. Johns River, St. Petersburg, South FL, Tallahassee, Valencia
Manufacturing Technology	AAS (0615060302) AS (1615060302)	37 15	Daytona St, Hillsborough, Northwest FL, Pensacola, St. Petersburg
Microelectronics Manufacturing Technology	AAS (0615030303) AS (1615030303)	None	None
Plastics Engineering Technology	AAS (0648060401) AS (1648060401)	2 20	St. Petersburg, Santa Fe
Safety Engineering Technology	AAS (0615070101) AS (1615070101)	3	St. Petersburg
Simulation Technology -Robotics	AAS (0615080101) AS (1615080101)	44	Daytona St



Focused on the task