

# Office of Workforce and Economic Development Update

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for  
Engineering Technology Forum  
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## Update Topics

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- Secondary Engineering Education
- Workforce Initiatives
- Grants
  - SUCCEED Florida
  - CHOICE
  - Requested Initiatives
- TechPrep News
- A++

## SECONDARY EDUCATION ENGINEERING PROGRAMS

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- Technical Education Program
  - Organized around broad technological occupations
  - Applied learning activities conducted in lab settings
  - A minimum of 75 % hands-on experiences with technological tools, machines, instruments, materials, processes, and systems
  
- Programs – Located in middle and high schools
- Students enrolled – 135,883

## Technology Education

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- Introduction and Exploration of Technology
  - Offered in grades 6-9
  
  - Aerospace, Communications, Production, Power and Energy and Transportation

## Technology Education

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- Offered in Grades 9-12
- Technology System
- Aerospace Technology
- Construction Technology
- Drafting/Illustration Design Technology
- Electronics Technology
- Engineering Technology
- Materials and Process Technology
- Power and Energy Technology
- Production Technology
- Transportation Technology

## SECONDARY EDUCATION ENGINEERING PROGRAMS

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- Career Academy Essential Elements
  - Small learning communities within a high school
  - Subset of students and teachers
  - Students enter voluntarily/parent support
  - Teachers from different subject areas work as team
  - College-prep curriculum with career theme
  - Partnerships with employers, the community, and higher education

## Career Academies

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- Located in 67 school districts
- Approximately 400 individual Career Academies

## Career Academies by Career Path

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- Manufacturing
- Scientific Technology, Engineering, and Mathematics
- Information Technology

## Workforce Education Initiatives Impacting Engineering Technology

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- Statewide Articulation Project
  - Maximize students' ability to progress from high school CTE programs to postsecondary adult programs (PSAV) to associate and bachelor's degrees

## Statewide Articulation Project

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- Phase I
  - PSAV
    - Architectural Drafting
    - Mechanical Drafting
    - Structural Drafting
  - AAS/AS Degree
    - Drafting & Design
    - 12 Credit Hours

## Statewide Articulation Project

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- Validation Mechanisms
  - 12 credit hours in escrow
  - Grade of C or better
  - 12 hours in program at Community College

## Statewide Articulation Project

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- Phase II
  - PSAV
    - Computer System Technology
    - Wireless Telecommunications
    - Network support Services
    - Network systems Administration
    - Electronic Technology
  - AAS/AS Degree(s)
    - Computer Engineering
    - Electronics Engineering
    - Network Services Technology
    - Telecommunications Engineering Technology

## 2006-2007 SUCCEED Florida Crucial Professionals Grants

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- Automotive and Manufacturing areas included for first time
- 2.5 Million available for proposals
- Twelve accepted for funding
  - Five in Manufacturing
  - Seven in Automotive

## *Space Coast Manufacturing Ramp Up* *Brevard Community College* \$211,712.00

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- Composites/Materials Engineering
  - Produces new materials with special properties through application of chemical and electrical engineering concepts.
  - To serve the defense and aerospace industries with new materials which have special properties.
- Biotechnology
  - Creates a biotechnology option for the AS degree in Chemical Technology
  - To support the biomedical research industry with skilled technicians as concepts from the Scripps Florida campus are turned into products.

## *Power Plant Operations Institute* *Indian River Community College* \$211,602.00

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- Create a partnership between IRCC and Florida Power & Light Company to address the growing utility workforce challenge
- FPL employees and students from the community progress through clearly defined programs crucial to the utility industry.
- FPL employs students in full-time internships allowing them to practice what they've learned.

## *Manufacturing: Operation Workforce* *Manatee County School District* \$211,712.00

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- Provide post-secondary training in Manufacturing to include: Electronic Technology, Machining, Welding, and Air Conditioning and Refrigeration Technology.
- Attract individuals into the world of manufacturing by:
  - Recruiting non-traditional populations
  - Create an internship program with Tropicana
  - Become a Manufacturing Skill Standards Council registered assessment center

## ***Computer Systems Technology***

*Orange County School District*

\$146,441.00

- Increase the number of students served and the employability upon graduation of the Computer Systems Technology program.
  - Add wireless technologies and cyber security as curriculum components
- Add new equipment, instructor training and develop curriculum.
- Develop an on-line delivery system.

## ***Related Industrial Technology***

*Pasco County School District*

\$211,712.00

- Prepare students for employment as engineering technicians in the manufacturing sector.
- Course content includes: CNC systems, CAD, Energy and Power Technology, Materials and Processing.
- Technical reading materials, computer based instruction, streaming videos, directed learning activities and project fabrication will be utilized.

## **Recommended CHOICE Replication Grant**

- Treasure Coast Workforce Development Board (St. Lucie)
- Targeted Industry Sector - Manufacturing/Pre-engineering
- Recommended Amount - \$222,464
- Local Match - \$1,092,909

## **Advocacy Partners for Career Education Community Colleges and Workforce Education**

State Board of Education Legislative Budget Request Initiatives:

1. Operating Funds proposed for both technical centers and community colleges support career/technical education at its highest level.
2. SUCCEED, Florida Grants have been supported by numerous business and industry groups for the past two years and are designed to build capacity for education programs to meet the state's most critical workforce needs (teaching, nursing, manufacturing, automotive, etc). These grants also fund career academies around the state.
3. GED Success Scholarships are proposed to encourage GED completers to enroll in continued career and technical education at the postsecondary level.
4. SPIRIT grants are proposed to support K12/Community College collaborative programs designed to move more students from secondary to postsecondary education, reduce the need for remediation, and provide for a high-skill workforce.
5. Ready to Work continuation funding will support the statewide implementation of a program aimed at providing student with credential that demonstrates his/her ability to enter the workforce with the skills needed to succeed.
6. Industry Certification Incentives are proposed to increase number of high school graduates with industry certifications at graduation or who continue onto postsecondary to complete the certification.

## Tech Prep Education

- Combines two years of secondary education with two years of postsecondary education.
- Sequence of study that integrates academic and technical instruction and utilizes work-based and work-site learning.
- Technical preparation must be in a career field and includes engineering technology, applied science, mechanical and industrial areas.

## Tech Prep in Florida

- Approximately 7000 articulation agreements in place
- 500,000 students involved in Tech Prep programs
- [http://www.firn.edu/doe/programs/tp\\_home.htm](http://www.firn.edu/doe/programs/tp_home.htm)

High School – Manufacturing Technology Program					
	9 <sup>th</sup> Grade	10 <sup>th</sup> Grade	11 <sup>th</sup> Grade	12 <sup>th</sup> Grade	
Language Arts	English I	English II	English III	English IV	Students successfully completing the joint assessments are eligible to receive technical center or Valencia college credit upon enrollment. Articulation courses are highlighted.
Mathematics	Algebra I	Geometry	Algebra II	Math Elective	
Science	Physical Science	Biology	Chemistry	Physics	
Social Studies	Global Studies	World History	American History	American Govt./Economics	
Physical Ed/Health	Personal Fitness	Physical Ed. Elective	Elective	Elective	
Technical Core Electives	Computing for College & Careers (BST)* (Recommended)	Manufacturing Technology 1	Manufacturing Technology 2	Manufacturing Technology 3	Dual Enrollment and Foreign Languages recommended.

Technical Center Option – Manufacturing Technology					
Students may receive the following advanced hours in these vocational programs at Orange County Technical Centers					
Welding Technology 50 hours	Automotive Service Technology 250 hours	Air conditioning, Refrigeration & Heating Technology 180 hours	Drafting Technology 50 hours	Electricity 50 hours	Electronic Technology 55 hours
Heavy Duty Truck and Bus Mechanics 120 hours	Machining 130 hours	Marine Service Technology 150 hours	Printing and Graphic Arts 100 hours	Television Production 100 hours	

## A++ Initiative

The 2006 Legislature passed House Bill 7087, An Act Relating to Education, more commonly known as A++. Governor Jeb Bush signed this bill into law on June 5, 2006.

- Career Education
  - Student exposure to a variety of careers
  - Student awareness of career programs
  - Student development of academic and career plans
  - Student required to choose a Major Area of Interest
  - Integration of academic and career skills
  - Student preparation to enter the workforce
  - Student retention
  - Career education curriculum articulation

# Contact Information

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