

Welcome!

FLATE INDUSTRIAL ADVISORY COMMITTEE

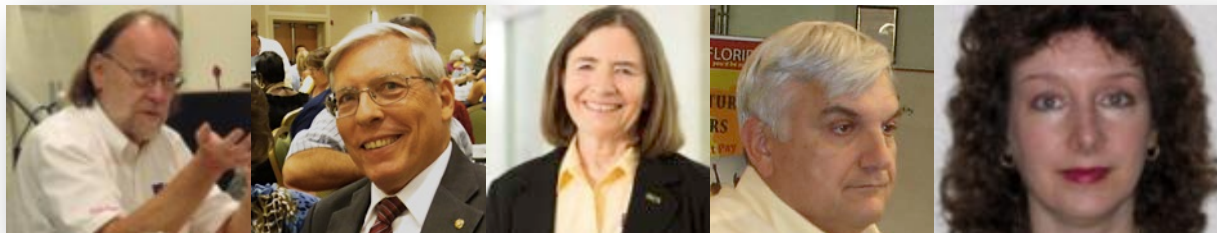
Meeting #32

Lake Sumter State College
Sumterville, FL

THURSDAY, JANUARY 14, 2016
4:30 – 7:00 PM
4:30 COLLEGE OVERVIEW & TOUR



Lake Sumter
State College



FLATE IAC
Lake Sumter State College
January 2016

www.fl-ate.org
www.madeinflorida.org

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Welcome and Overview Lake Sumter State College Relay Station Technician Lab Tour

Introductions & FLATE Overview

ET Degree updates

2015 MFG DAY summary/recap

FLATE Awards – Nominations Open!

MSSC Coming to FL

Manufacturing Association and FL TRADE Updates

LSSC program Overview & Industry Panel

2015 FLATE Stakeholder Survey Recommendations

New Business & Open Forum

Next Industrial Advisory Committee meeting

Thursday, May 14, 2015 @ Lake Sumter State College

Wrap up and Adjournment



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Vision



FLATE will be Florida's leading resource for education and training expertise, leadership, projects, and services to promote and support the workforce in the high performance production and manufacturing community.

Impact locally. Lead nationally.



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FLATE goals

GOAL 1. To ensure that FLATE's mission is **sustained**.

GOAL 2. To implement a statewide unified **education system** for manufacturing that positions manufacturing education as a convergent curriculum that optimizes technician preparation in manufacturing and its enabling technologies.

GOAL 3. To provide an effective **outreach platform** for Florida's high school, community college, industry, and legislature to access information related to the requirements for and impact of manufacturing education.

GOAL 4. To present **professional development** opportunities for technical faculty to develop, refine or certify their knowledge base within manufacturing and/or its related enabling technologies and educational pedagogies.



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NSF Advanced Technological Education

ATE CENTERS



www.atecenters.org

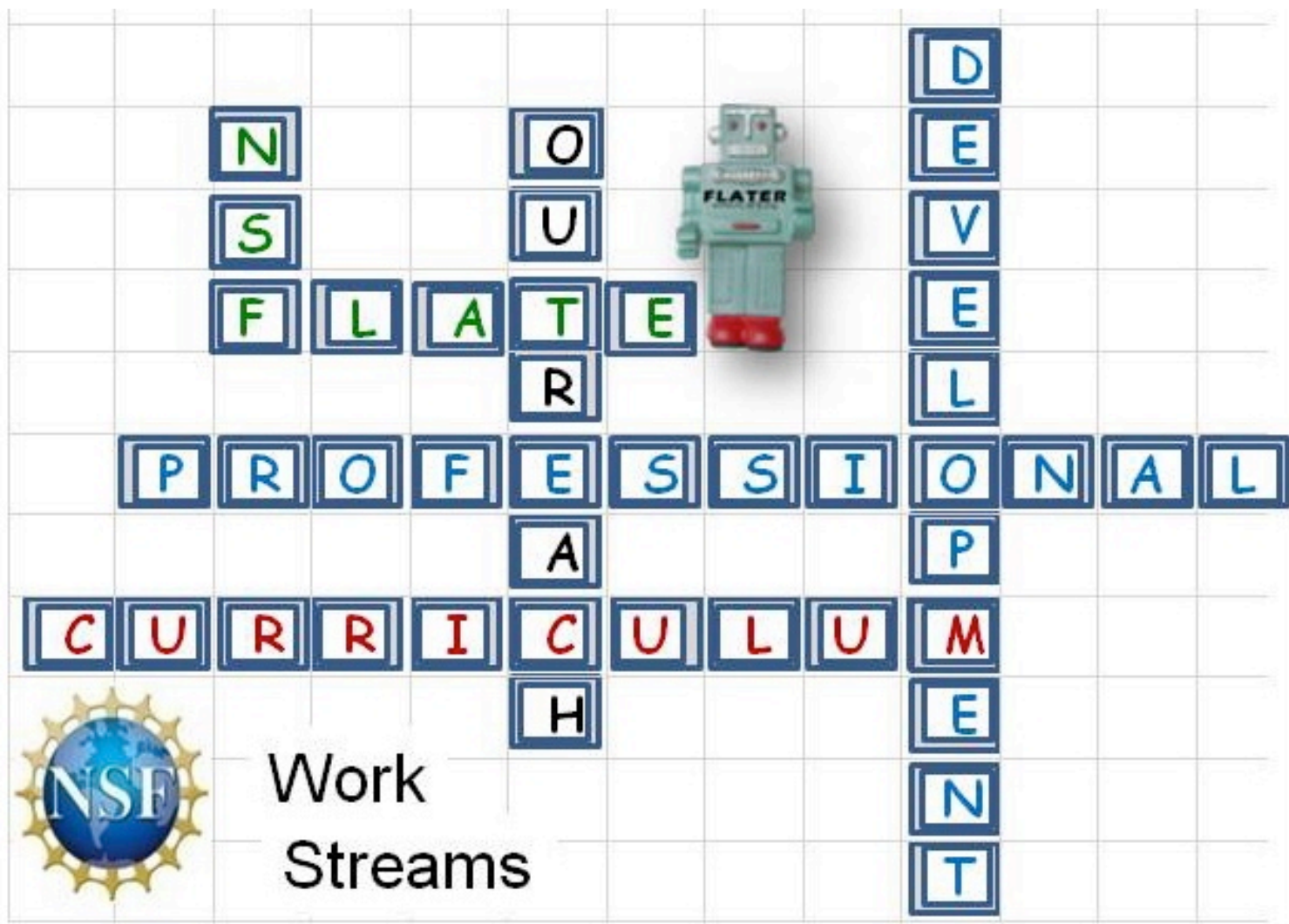
Partners with Industry for a new American Workforce



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Work
Streams



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FLATE Updates



FLATE Updates

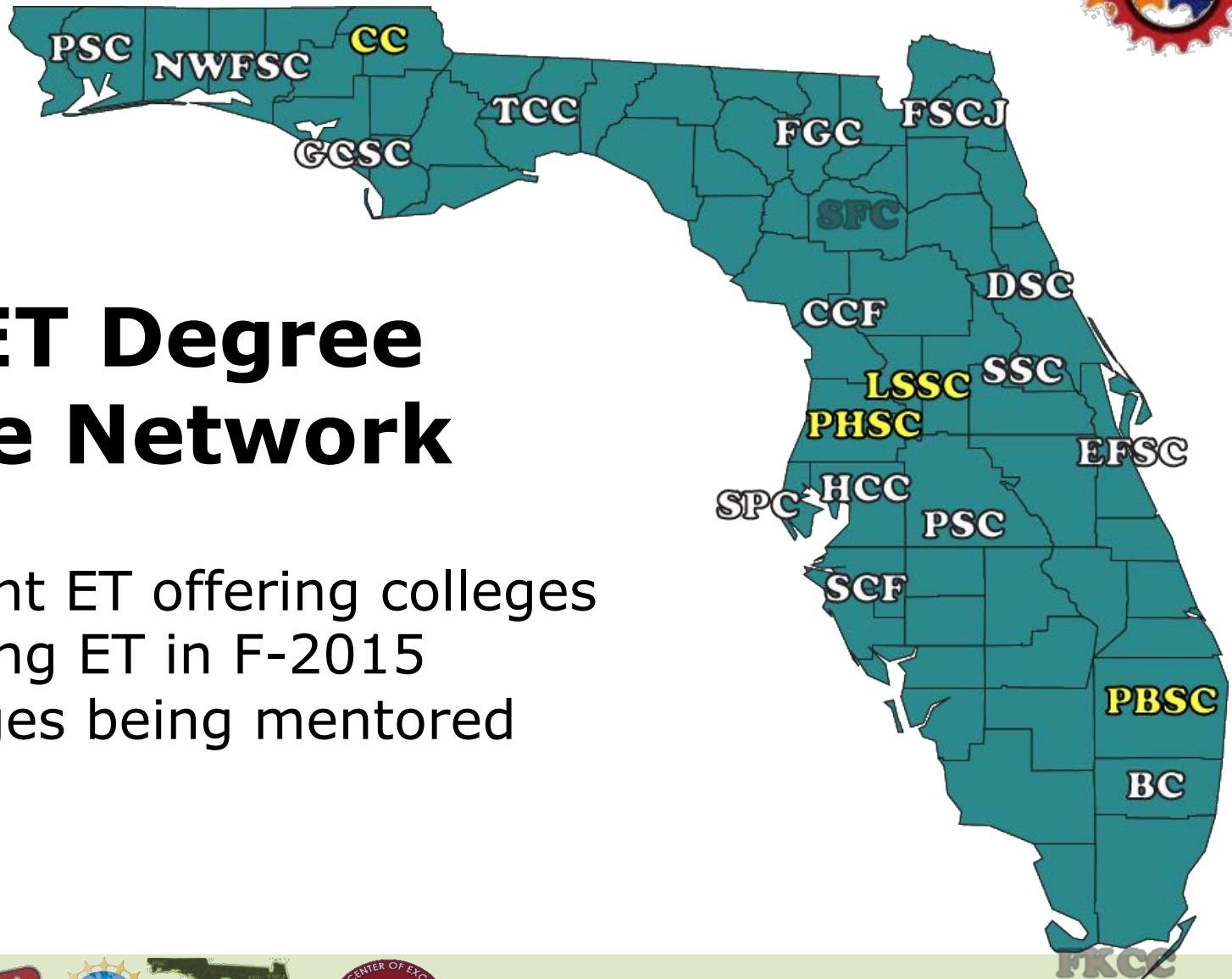
- ET Degree updates; ET Forum @ LSSC
- 2016 ET & APT Curriculum Framework review
- NIMS alignment to FLDOE Frameworks
- New Partnerships
- 2015 MFG DAY summary results
- 2016 summer robotics /manufacturing camps and teacher PD



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2015 ET Degree College Network

- current ET offering colleges
- starting ET in F-2015
- colleges being mentored



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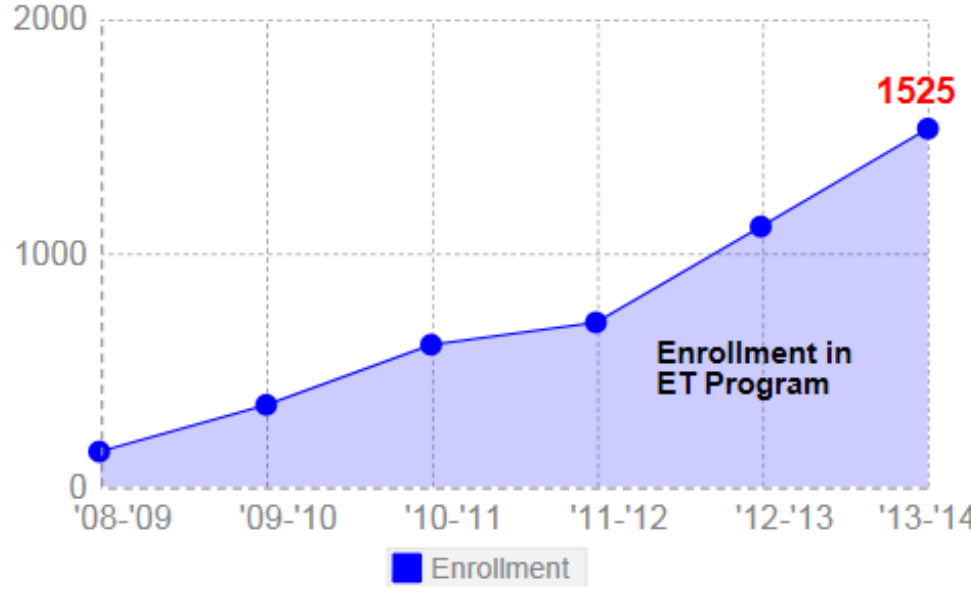
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Engineering Technology A.S. Degree



Key Milestones 2008 - 2015





A.S. Engineering Technology



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2016 A.S. Engineering Technology

VERY IMPORTANT!!!



FLORIDA DEPARTMENT OF
EDUCATION
fldoe.org

Curriculum Framework Review

- Legislatively mandated tri-annual review
- Managed by the Adult & Career Education Division of FLDOE
- Requires over 50% **industry** participants
- Updates KSAs (knowledge/skills/abilities) in the ET degree program)



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2016 A.S. Engineering Technology & APT Curriculum Framework Reviews

VERY IMPORTANT!!!



- Legislatively mandated tri-annual review
- Managed by the Adult & Career Education Division of FLDOE
- Requires over 50% **industry** participants
- Updates KSAs (knowledge/skills/abilities) in the ET degree program)



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Sample Framework Document

2014 – 2015

**Florida Department of Education
Student Performance Standards**

Program Title: Engineering Technology
CIP Numbers: 1615000001
Program Length: 60 credit hours
SOC Code(s): 17-3023, 17-3026, 17-3027, 17-3029, 51-4012

The AS degree requires the inclusion of a minimum of 15 credits of general education coursework according to SACS, and it must be transferable according to Rule 6A-14.030 (2), F.A.C. At the completion of this program, the student will be able to:

- 01.0 Demonstrate knowledge of industrial processes and materials properties--The student will be able to:
- 01.01 Demonstrate knowledge of current manufacturing processes.
- 01.02 Demonstrate knowledge of the use of current manufacturing machines, operating systems and mechanisms.
- 01.03 Estimate manpower needs and skills needed in assembly operations.
- 01.04 Demonstrate knowledge of the criteria for tool design, maintenance, procurement and handling.
- 01.05 Demonstrate knowledge of gage design, usage and limitations.
- 01.06 Analyze and recommend the usage of jigs and fixtures, including effectors and special grippers for automated systems.
- 01.07 Demonstrate knowledge of processes used to ensure that changes do not negatively impact production or product.
- 01.08 Demonstrate knowledge of production timing to ensure customer satisfaction and on-time delivery.
- 01.09 Demonstrate knowledge of time and motion to enhance productivity.
- 01.10 Make continuous adjustments to equipment and procedures that result in improved productivity.
- 01.11 Demonstrate knowledge of how raw materials are moved.
- 01.12 Setup or modify new equipment per engineering specifications and documentations.
- 01.13 Demonstrate an understanding of the importance and impact of routine maintenance of machines and equipment on operations.
- 02.0 Generate and interpret computer aided drawings. The student will be able to:

Sample Framework Document

2014 – 2015

Florida Department of Education
Student Performance Standards

2014 – 2015

Florida Department of Education
Student Performance Standards

Program Title: Engineering
CIP Numbers: 161500000
Program Length: 60 credit hours
SOC Code(s): 17-3023, 17-3026, 17-3027, 17-3029, 51-4012

Program Title: Engineering Technology

CIP Numbers: 161500001

Program Length: 60 credit hours

SOC Code(s): 17-3023, 17-3026, 17-3027,
17-3029, 51-4012

The AS degree requires the inclusion of the following standards according to SACS, and it must be completed by the student at the completion of this program, the student will be able to:

01.0 Demonstrate knowledge of industrial processes and materials properties--The student will be able to:

01.01 Demonstrate knowledge of current manufacturing processes.

01.02 Demonstrate knowledge of the use of current manufacturing machines, operating systems and mechanisms.

01.03 Estimate manpower needs.

01.04 Demonstrate knowledge of manufacturing processes.

01.05 Demonstrate knowledge of manufacturing processes.

01.06 Analyze and recommend improvements for automated systems.

01.07 Demonstrate knowledge of manufacturing processes for product.

01.08 Demonstrate knowledge of manufacturing processes.

01.09 Demonstrate knowledge of manufacturing processes.

01.10 Make continuous adjustments to manufacturing processes.

01.11 Demonstrate knowledge of manufacturing processes.

01.12 Setup or modify new equipment.

01.13 Demonstrate an understanding of manufacturing processes on operations.

02.0 Generate and interpret computer-aided drawings. The student will be able to:

✓ Demonstrate knowledge ...

✓ Construct...

✓ Prepare...

✓ Set up equipment...

✓ Analyze...

Sample Framework REVIEW Document

<u>K</u>	<u>U</u>	<u>D</u>	<u>S</u>	<u>B</u>	<u>STANDARDS AND BENCHMARKS</u>	<u>COMMENTS</u>
					12.0 <u>Operate, troubleshoot, and maintain pneumatic, hydraulic and electromechanical components and/or systems</u> – The student will be able to:	
					12.01 Identify, classify and describe the function of pneumatic, hydraulic and electrical machines and components.	
					12.02 Construct flow diagrams and of pneumatic, hydraulic, and electromechanical systems.	

Sample Framework REVIEW Document

<u>K</u>	<u>U</u>	<u>D</u>	<u>S</u>	<u>B</u>	<u>STANDARDS AND BENCHMARKS</u>	<u>COMMENTS</u>
✓					12.0 <u>Operate, troubleshoot, and maintain pneumatic, hydraulic and electromechanical components and/or systems</u> – The student will be able to:	
		✓			12.01 Identify, classify and describe the function of pneumatic, hydraulic and electrical machines and components.	
✓					12.02 Construct flow diagrams and of pneumatic, hydraulic, and electromechanical systems.	This needs clarifying – are they individual or integrated systems?

K=Keep as is

U=Update per comment

D=Delete (no longer relevant)

S=New standard per comment

B=new benchmark per comment



NIMS Credential Alignment & Articulation

NEW!!

www.flate.pbwiki.com

CNC Machining

last edited by MARILYN BARGER 2 weeks ago

Page history

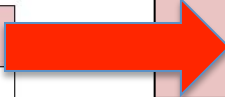
This page houses links to the new 2015 Florida Machining Technology Curriculum Frameworks for High School and PSAV hosted on the FDOE website. It also hosts the alignment and crosswalk of the Curriculum Frameworks standards and benchmarks to the skills in NIMS Machining Level 1 & Level 2 credentials.



[Link to FDOE Manufacturing cluster home page](#)

***NOTES to Educators and Users of the Alignments and Crosswalk Documents*

FLORIDA SECONDARY LEVEL ALIGNMENTS/CROSSWALKS	FLORIDA POST SECONDARY LEVEL ALIGNMENTS/CROSSWALKS
Link to current FLDOE Secondary Machining Technology Framework	Link to current FLDOE Post Secondary Machining Technology Framework
Secondary Machining Technology Framework alignment and crosswalk to NIMS credentials	Post Secondary Machining Technology Framework alignment and crosswalk to NIMS credentials
Secondary "High Level" Machining Tech-NIMS Alignment (alignment summary)	Post Secondary "High Level" Machining Tech-NIMS Alignment (alignment summary)
FLORIDA A.S. LEVEL ALIGNMENTS/CROSSWALKS	
Link to current FLDOE AS ET Degree Frameworks (w Mechanical Fabrication & Design specialization)	
ET Degree Mechanical Fabrication and Design Specialization alignment and crosswalk to NIMS credentials	
Links to current FLDOE Frameworks for College Credit Certificates (CCCs) under Mechanical Fabrication and Design Specialization: CNC Machinist / Fabricator (CCC - 0648051002) CNC Machinist Operator / Programmer (CCC - 0615000015) Mechanical Designer and Programmer (CCC - 0615080503)	
CCC-NIMS alignment files: CNC Machinist Operator CCC alignment and crosswalk to NIMS credentials CNC Machinist-Fabricator CCC alignment and crosswalk to NIMS credentials Mechanical Designer and Programmer CCC alignment and crosswalk to NIMS credentials Florida AS ET Degree "High Level" Alignment (alignment summary)	
FLORIDA CAPE FUNDING LISTS and STATEWIDE ARTICULATIONS	
FLDOE Website for CAPE Certification Lists (Secondary and post-secondary) and statewide articulations	



FLORIDA POST SECONDARY LEVEL ALIGNMENTS/CROSSWALKS

[Link to current FLDOE Post Secondary Machining Technology Framework](#)

[Post Secondary Machining Technology Framework alignment and crosswalk to NIMS credentials](#)

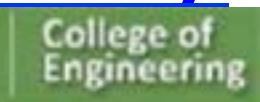
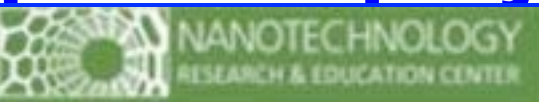
[Post Secondary "High Level" Machining Tech-NIMS Alignment \(alignment summary\)](#)



FLATE New Partnerships

2015 Partnership Projects

www.fl-ate.org/partner-projects/



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Now Open! 2016 Nominations

look for these icons on www.fl-ate.org submit nominations online



Awards Timeline

December 2015	Nominations open
May 2015	Nominations close
June 15	Winners announced
July 27, 2016	Awards ceremony @ FACTE Conference, Orlando, FL

NEW!!



FLATE Awards

FLATE
Florida Advanced Technological Education Center

Distinguished Manufacturing Service Recognition Program

2016




Awards Timeline

December, 2015 – Criteria published at fl-ate.org/projects/fl-ate-awards
Online nominations

March 1, 2016 - [Nomination form I](#)
To be completed by nominators.

May 1, 2016 - [Nomination form II](#)
To be completed by nominees.

May 1, 2016 – Nominations close.

May 31, 2016 - Award selections are made by FLATE IAC-FACTE award Committee.

June 5, 2016 - Award recipients and principal nominators are notified of their selection.

July 25-27, 2016 - Awards presented during The 50th Annual FACTE Conference & Trade Show held at the Buena Vista Palace Hotel and Spa in Orlando, Florida, July 25-27, 2016.

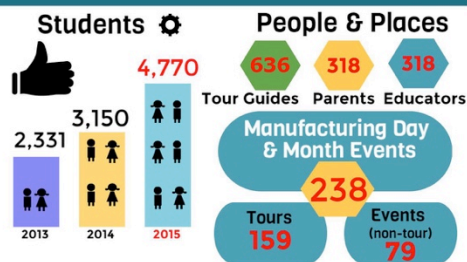


FLATE Updates - Manufacturing Day

2015 MFG DAY/Month in FLORIDA!

Statewide Summary Infographic, Data and Photos now posted on mfgday-fl.org

2015 MFG DAY in Florida



Manufacturing Day in FL 2015

Total Students & Surveys Returned

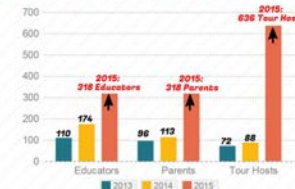


MFG DAY 2015						
Student Industry Tour Date: October						
Tour Site Location/s: Metal Essence						
County: Seminole						
Name of School/s Participating: Lake Mary HS						
Total Number of Students: 16						
Post Tour Survey Questions	Yes Girls	Yes Boys	No Girls	No Boys	Total Yes	Total No
1. I was considering a career in advanced manufacturing before the tour.	0	9	1	6	9	7
2. My teachers have talked about advanced manufacturing with my class.	1	15	0	0	16	0
3. Today I learned about technologies used in advanced manufacturing industries and manufactured products.	1	15	0	0	16	0
4. This tour gave me new information about careers in advanced manufacturing.	1	15	0	0	16	0
5. The tour helped me understand how STEM subjects (science, technology, engineering and math) are put to work in advanced manufacturing industries.	1	14	0	1	15	1
6. I would recommend that other students have the opportunity of this tour.	1	15	0	0	16	0
7. I am now considering a career in advanced manufacturing.	1	13	0	2	14	2
Percentage of Total Responses						
Advanced Manufacturing Perception Impact - Question Comparison for 1. & 7.	+55.56% Change for both boys & girls considering a career in advanced manufacturing before and after the tour.					

Participating Counties & Events



Educators, Parents (Chaperones) & Tour Hosts

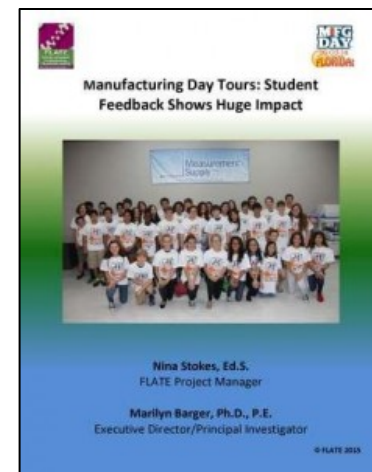


mfgday-fl.org

Comparison by Year



“Manufacturing Day Tours: Student Feedback Shows Huge Impact”





LEGO MINDSTORMS Education EV3

2016

ROBOTICS CAMPS



@ HCC Brandon

- Intro Girls
- Intro Boys & Girls
- Intermediate
- High School-engineering



- 2015 Locations:**
- Ocala
 - Sarasota
 - Palm Beach
 - Crystal River
 - Pensacola
 - Lake City
 - Jacksonville
 - Leesburg



International Internship Program

Supporting Engineering Technology & Manufacturing in Florida!

PROGRAM UPDATES

6-12 months Internship 100% financed by the Basque Government (Spain).

- **April 2015**: Host companies complete placement forms for "Global Training" internships. HeatPipe/ MiTEck
- **September 2015**: Selection of candidates by GT.
- **October 2015**: Matching process & interviews by FL Host company. Complete paper work (visa forms)
- **Nov-Dec. 2015**: Logistics, housing etc.
- **January, 2016**: Internships begin



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More International Partnerships

Supporting Engineering Technology & Manufacturing in Florida!



Jan 2016: Deputy Director of Articulation & Academic Vice-Rector Department from Santiago, Chile Visit FLATE

Feb 2016: AAAS Annual Symposium International Education in Community Colleges (DC)

Jun 2016: Host Bahamian HS robotics students

Summers: 4 years of hosting summer interns at FLATE Robotics Camps & invited talks



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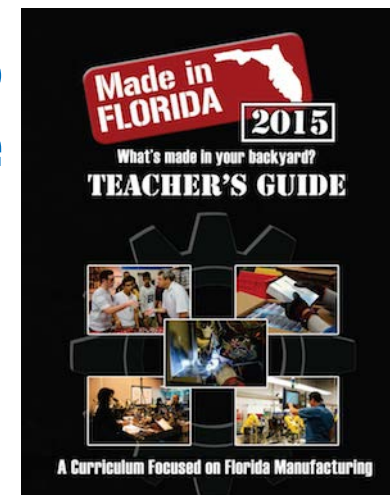
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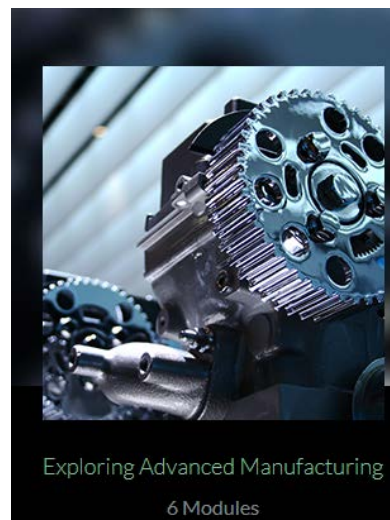
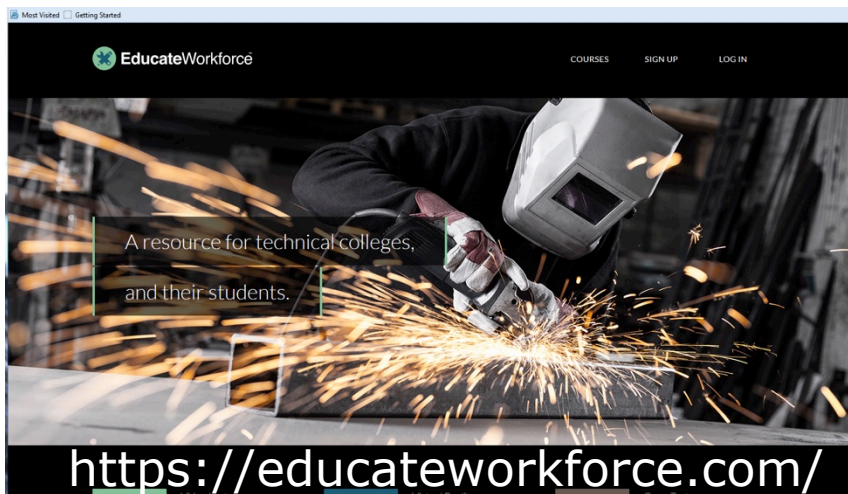
NEW!!

Manufacturing Educational Resources

“Made in Florida” 2015 Video Teacher Guide



“Exploring Advanced Manufacturing” FREE 6 module online course + e-book



In partnership with
CAVES



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FLATE's 2015 bi-annual Stakeholder Survey Summary & Recommendations



*Your chance to tell FLATE how we are doing
and what you might like to see us do.*



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The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. The shapes are primarily triangles and polygons, creating a dynamic, layered effect. The overall composition is clean and modern, with the text centered in the white space.

FLATE Bi-Annual Stakeholder Survey

2015

Purpose

- ▶ Collect data and feedback to:
 - ▶ Monitor stakeholder satisfaction
 - ▶ Judge stakeholder perceptions
 - ▶ Identify improvement opportunities
 - ▶ Identify new program opportunities

2015 Stakeholder

Survey
Open in September 2015

- ▶ Over 2400 emails - 194 respondents (8 % response rate)
- ▶ Mostly Post-Secondary & K-12 Educators/Administrators (about 68%)
- ▶ Other Stakeholders including
 - ▶ Business/Industry, Workforce/Economic Dev, FL DOE & Government, Educational Suppliers/Vendors
- ▶ Mostly Florida Stakeholders (61%)

2015 Results

- ▶ Easy access to FLATE staff & products
 - ▶ Agreement-Up EDUC:84% OTHER: 94%
 - ▶ Disagreement-Down EDUC: 1% OTHER: 2%
 - ▶ Not tried to access (Not asked before)
EDUC: 15% OTHER: 5%

- ▶ Staff have helped when asked
 - ▶ Agreement-Up EDUC:75% OTHER: 88%
 - ▶ Disagreement-Flat EDUC: 2% OTHER: 0%
 - ▶ Not attempted (Not asked before)
EDUC: 23% OTHER:
12%

2015 Results

- ▶ Outreach materials/activities have helped
 - ▶ Agreement-Up EDUC: 53% OTHER: 68%
 - ▶ Disagreement-Down EDUC: 0% OTHER: 5.0%
 - ▶ Not familiar-Down EDUC: 5% OTHER: 2%
 - ▶ Not used (Not asked before)
EDUC: 22% OTHER: 26%
- ▶ PD activities have helped
 - ▶ 65% Agreement-Down
 - ▶ 1% Disagreement-Ddown
 - ▶ Have not participated 34% (Not asked before)

2015 Results

- ▶ Curriculum initiatives have helped
 - ▶ 70% Agreement-Up
 - ▶ 6% Disagreement-Up
 - ▶ Unfamiliar 24% -Up (But also offered N/A response)
- ▶ Curriculum materials have helped
 - ▶ 66% Agreement-Down
 - ▶ 4% Disagreement-Down
 - ▶ Unfamiliar 30% -Up (But also offered N/A response)

2015 Comments

- ▶ What is FLATE's most important contribution to you? (112 comments entered)
 - ▶ Wide range of favorable comments, about 50% relating to Outreach & about 25% each in Curriculum & Professional Development

2015 Comments

- ▶ What can FLATE change to improve its initiatives, activities, and/or products to better serve you? (79 comments entered)
 - ▶ About 50% of the commenters said “nothing” or that FLATE should do more of what it already does well.
 - ▶ More geographic diversity in outreach
 - ▶ More school tours and targeted tours

2015 Comments

- ▶ What new initiatives, activities, and/or products could FLATE develop that you would be interested in? (63 comments entered)
 - ▶ About 25% of the commenters said “nothing”
 - ▶ Outreach: More engagement of middle and elementary school students and parents
 - ▶ Curriculum: More 3D printing related activity

Recommendations

- ▶ More geographically diverse outreach
- ▶ More emphasis on getting the message about manufacturing and manufacturing education to middle and elementary school students and parents
- ▶ Identification of best practices in manufacturing education for cataloging and making available



Manufacturing Association and FL TRADE Updates

Tina Brudnicki



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New Business Open Forum Action Items?

Tina Brudniki



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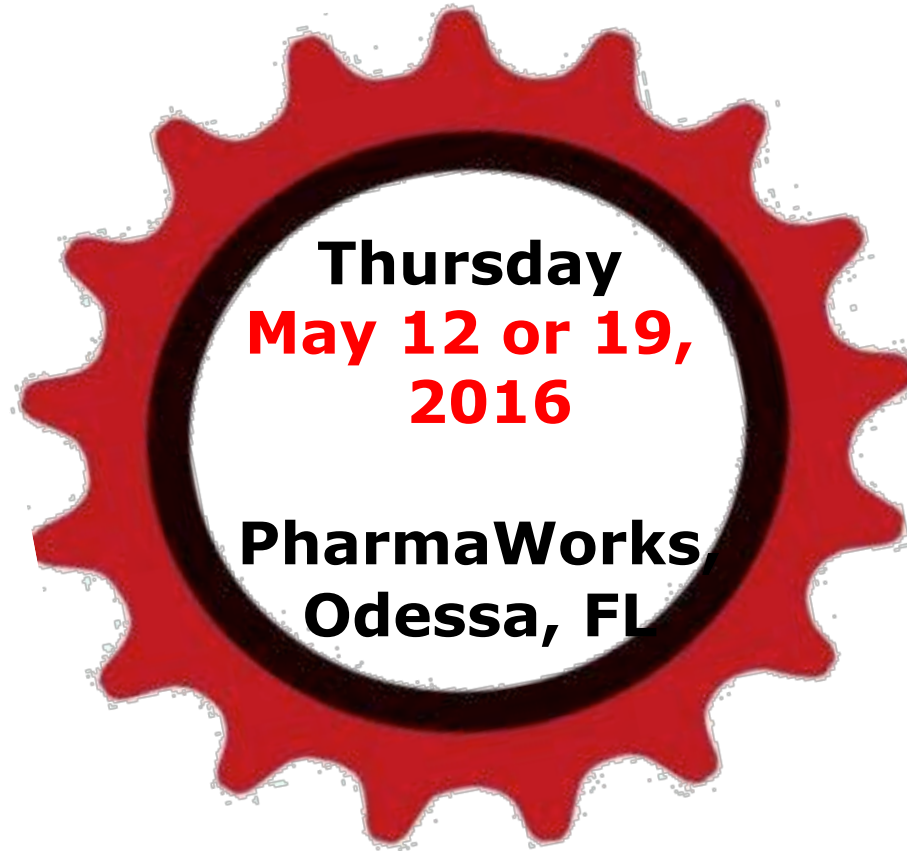


Next Meeting!



SETTING THE PACE OF INNOVATION

2346 Success Dr, Odessa, FL 33556



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