Florida Advanced Technological Education Center of Excellence

2013 Project Highlights

Organizational	Outreach	Curriculum	Pro. Development
Vision - Mission - Guiding Principles	Best Practices	Teacher Resources	Biotechnology Workforce
Center Overview	Communications	Engineering Technology Education	Engineering Technology Forum
Partnerships	Career / Technical Organizations	Soft Skills Activity	Florida Energy Systems Consortium
Impact	Student Tours	sTEM at Work	Professional Development
Baldrige/Sterling Evaluation	Robot Camps	Iberian Partnership	
NSF ATE Joint Exhibits	Florida Trend's NEXT		
	Education Awards		
	Madeinflorida.org		
	FL-ATE.org		
	Product Display		

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Vision - Mission - Guiding Principles

Organizational | Outreach | Curriculum | Professional Development

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.

MISSION

FLATE, an NSF–ATE Regional Center for Advanced Technological Education, is the go-to organization for manufacturing and advanced technical education, best practices and resources supporting the high performance skilled workforce for Florida's manufacturing sectors.

GUIDING PRINCIPLES

- Does this meet FLATE's ethical expectations?
- Does this build upon and require strong team-work to accomplish?
- Does this enhance our ability to build bridges among academia and industry partners and stakeholders?
- Does this ensure that the role of community colleges is valued and respected?
- Does this increase FLATE's leadership in technical education in the State of Florida?
- Does this support our drive toward continuous improvement and augment our ability to be innovative in developing services and products for industry and education stakeholders?
- Does this augment our aptitude for providing resources, opportunities, and access for student success?

This activity supports FLATE's vision to be a self sustaining and quality organization.

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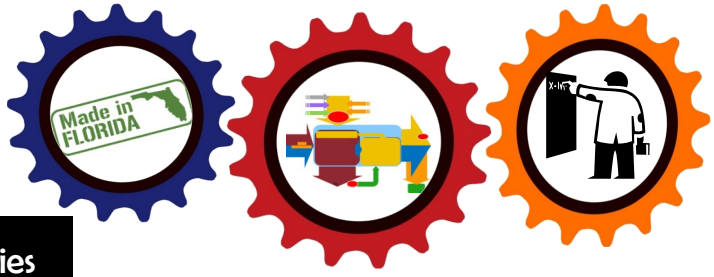
FLATE Center Overview

Organizational | Outreach | Curriculum | Professional Development

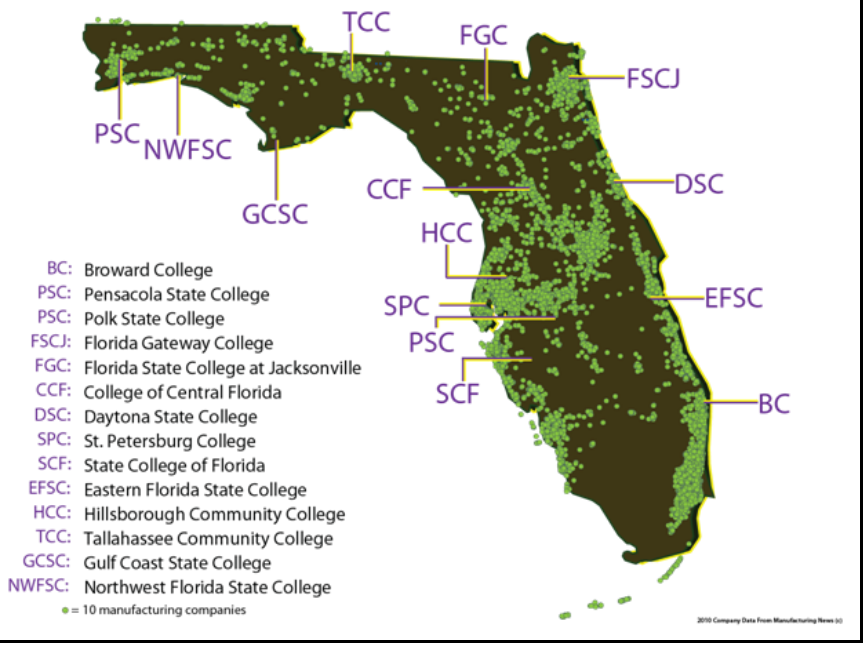
FLATE was envisioned in 2002 under a National Science Foundation Advanced Technological Education (NSF-ATE) planning grant. The Center is one of 48 ATE Centers of Excellence in the United States focused on improving science, technology, engineering and math education supporting the technician workforce needs of American advanced and emerging technology industries. FLATE's work is industry driven and focused in 3 areas of outreach and recruitment, professional development for educators, and curriculum development and reform.

Advancing Excellence in Engineering Technologies Education

Tell
Teach
Train



FLATE's Partners Serve Florida's High-Tech Industries



Impact Locally. Lead Nationally.
Planning Grant funded in 2002
FLATE Center funded in 2004, 2008 & 2012
Awarded over $8,600,000 from NSF
Administratively located at Hillsborough Community College's Brandon Campus in Tampa, FL
Supports Career and Technical Education in secondary and post secondary programs
Leadership : HCC, SPC and USF College of Engineering

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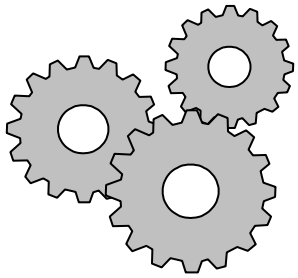
Industry Partnerships

Organizational | Outreach | Curriculum | Professional Development

Industry Partnerships and participation in FLATE's activities and projects is crucial for our success. FLATE's Industry partnerships manifest themselves in several ways. FLATE has an Florida-based Industry Advisory Committee (IAC). As an NSF ATE Center of Excellence, FLATE also has a National Visiting Committee (NVC) predominantly comprised of executive officers of Florida's manufacturing companies. Additionally, FLATE has many partnerships with individual groups of companies as well as statewide, regional and professional industry organizations.



FLATE Industry Group	Activities
National Visiting Committee	Assesses, advocates, and advises the FLATE team and reports annually directly to the National Science Foundation
Industry Advisory Committee	A statewide group of manufacturing and manufacturing education practitioners providing regular input to FLATE
Annual Industry Distinguished Service Awardees	Annual award to an industry partner who strongly supports one of FLATE's academic partner or FLATE programs

"FLATE has given students and educators the tools to pursue careers/ educational pathway that have high return on investment ...[and is] taking a leading role to establish and offer curriculum and training programs that are industry-centric as well as sensitive to the needs of manufacturers throughout the state."
Tom Kennedy, South Florida Manufacturers Association.

FLATE Heroes

2002 - 2012

Good help is hard to find, but FLATE has been extremely fortunate to have a lot of hard working "heroes". Now is a good time to take a moment and say "Thank you" for your hard work and unwavering support.

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Impact

Organizational | Outreach | Curriculum | Professional Development

FLATE's impact on its educational and industry stakeholders is captured in a variety of metrics. FLATE data comes from stakeholder surveys, the Florida Department of Education enrollment databases, various web statistics, anecdotal comments, survey results, and other sources. These define our activity successes and impact as well as provide feedback for process improvements.

FLATE Activity and Impact

- Industry defined/endorsed Engineering Technology (ET) Degree (AS/AAS) degree approved by FL DOE in May 2007
  - ⇒ Statewide credential-based articulated program aligned with NAM's Stackable Certification System
  - ⇒ 18 frameworks for 15 certificates and 8 specializations
  - ⇒ 12 partner colleges; 44 Florida manufacturing companies; FL Department of Education, Workforce Florida, Manufacturers Skill Standards Council, Manufacturers Association of Florida, Regional Associations
  - ⇒ 14 college adoptions of the Engineering Technology program (as of December 2012)
  - ⇒ 1 articulated high school framework submitted to FL DOE aligned with MSSC certification (2 more in progress)
  - ⇒ 5,889 students enrolled in Engineering Technology and related college certificate and degree programs (2011-2012)
  - ⇒ Awarded over $220,000 to ET degree awarding college partners for laboratory upgrades
- A statewide articulation agreement for high school students and incumbent workers for 15 credit hours by achieving MSSC Production Technician Certification already impacting 6 existing high school programs
- Working partnership with Florida Department of Education and Workforce Florida, Inc.
- Provided language for Career and Prof. Academy legislation and testified before House and Senate subcommittees
- Crafted the award for *Banner Center for Manufacturing* for related workforce training initiatives (2006-08, $700,000)
- Awarded $500,000 additional funding from NSF ATE for requested special projects
- Legislatively identified as the FESC (Florida Energy Systems Consortium) resource for community and state colleges (2009-2011, $300,000)
- FLATE has been leveraged by its partners to obtain over $60 million in state and local funding
- Facilitated 38 summer externships for STEM & Manufacturing teachers in partnership with TRDA Teacher Quest
- Provided 10,863 hours of professional development to 21,577 educators and 7,029 workforce, economic and manufacturing personnel as well as to community members at hundreds of events in Florida, nationally, and worldwide
- Over $200k in cash donations from industry partners around the state for advertorials, student tours, DVD production, and awards
- Over $100k in kind contributions by industry personnel (tours, video filming, curriculum)
- Over 67,000 Florida students and educators influenced by the *Made in Florida* outreach campaign including industry tours, presentations, online and distributed videos, summer camps, multimedia resources, and advertorials through Florida Trend's *NEXT*
- 4,050 students and over 400 teachers and parents, hosted by over 50 different manufacturers in 180 *Made in Florida* Industry tours
- Annually provided leadership and content for MAF's Manufacturers Summit Workforce & Education program track
- Annually recognize 3 outstanding Educational and Industry stakeholders who are champions of manufacturing education
- Supported 587 students in Robotics Camps including service to underserved populations, Junior Achievement, and "Girl's Only" camps
- Online outreach via FLATE's *FOCUS* newsletter, online lesson plan resources for educators, and website visits for fl-ate.org and MadeinFlorida.org have provided resources to a over 80,000 visitors since 2009.
- FLATE has received ten national and statewide recognitions and awards for program development and curriculum content.

FLATE tracks impact in three strategic areas of concentration: Curriculum Reform and Development, Outreach, and Professional Development.

- Model for seamless articulation to Florida BSET and BAS degrees
- Model for industry endorsed 2-year curriculum for A.S. degrees in Engineering Technologies and integrating national skill standards into 2-year degree curriculum and articulation by certification credential
- Model for statewide communication among educational and industry partners and the Florida Department of Education
- National advisory boards for Technical Education including ATE Centers, MSSC, NAM, NCPN, and Professional Organizations
- Using the Baldridge Evaluation Model, an industry recognized system structured on organizational quality improvement
- Dissemination by over 250 national presentations, posters, and published papers on center activities and best practices

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Baldrige/Sterling Evaluation

Organizational | Outreach | Curriculum | Professional Development

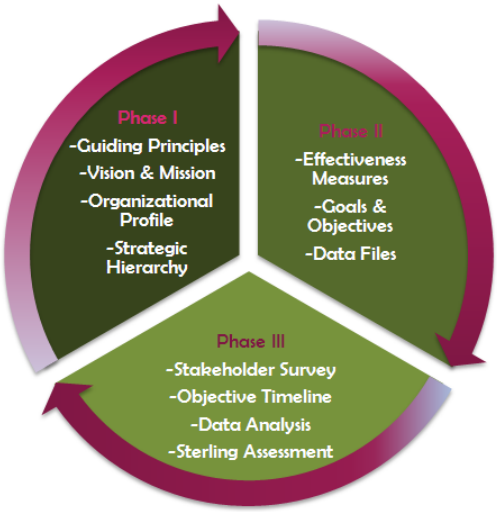
FLATE's evaluation plan consists of 2 interdependent levels – various types of data validate its performance with respect to its past, present and future goals and objectives and an overarching, strategically-oriented process ensures FLATE continues to strive for improvement in our processes and products. FLATE's strategy is to fully integrate its NSF ATE evaluation requirements with the nationally recognized Malcolm Baldrige (Florida Sterling) Quality Process. Actions and activities are driven by opportunities identified by stakeholders. Our plan is cyclic with three annual phases (each with several components).

2012 Bi-Annual Sterling Evaluation Summary					
Category		Available Points	2008	2010	2012
1	Leadership	140	42	56	63
2	Strategic Planning	100	40	50	45
3	Customer Focus	100	40	40	50
4	Measurement, Analysis, & Knowledge Management	100	25	30	40
5	Workforce Focus	100	30	30	30
6	Operations Focus	100	30	30	40
7	Results	360	126	126	144
Total		1000	333	362	412

2012 FLATE Strengths Identified

- Strong environment for 2-way communication & stakeholders engagement
- Activity and performance improvements based on stakeholder/customer feedback
- Operational effectiveness & strategy implementation

This is really fantastic! I recognized the merit of FLATE choosing an industry process for quality systems immediately. You are doing a great job implementing the Sterling process."



Bi-Annual Stakeholder Survey Results (2011, n=194)	% agree or strongly agree
I have easy access to FLATE staff & products	91%
Direct support from FLATE has helped my work	66%
Professional development initiatives have assisted me	59%
Curriculum reform initiatives have helped me in my work	57%
Curriculum materials have assisted me	64%
The "Made in Florida" outreach campaign has assisted me in my work	57%

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NSF ATE Joint Exhibits

Organizational | Outreach | Curriculum | Professional Development

ATE CENTERS IMPACT

The NSF ATE Joint Exhibits are geared to promote the NSF ATE mission through dissemination of information and showcasing of ATE programs, products, expertise, and services at key regional and national conferences. The ATE Centers (48 in 2012) display at 6-8 joint exhibit events per year. These exhibits have proven to be an effective mechanism to provide highly visible, coherent impact to a variety of regional and national stakeholders.

"Our participation in ATE Joint Exhibits has provided SC ATE with excellence opportunities to disseminate our work and resources, share best practices, and meet potential collaborators.

What we've learned through networking with other ATE Centers and project grantees allows us all to better "spread the word" about the work done by each and by NSF ATE as a whole. "

-Tressa Gardner
SC ATE Center of Excellence

ATE Center Joint Exhibit Events 2012		
March 4-6	LOI	League for Innovation
Apr 26	NTWS	National Transportation Workforce Summit
April 21-23	AACC	American Association of Community Colleges
June 10-12	ASEE	American Society for Engineering Education
August 27-28	HI-TEC	High Impact Technology Conference
October 17-19	NCPN	National Career Pathways Network
November 29-30	ACTE	Association of Career and Technical Education

Joint Exhibit Center Participation for 47 Centers (2008– 2012)

Year	# of Events Per Year	# of Centers Participating	# of Participants by Year	Center Participation (%)
2008 (34 centers)	2	12	16	36%
2009 (36 centers)	6	18	47	50%
2010 (36 centers)	7	23	84	64%
2011 (40 centers)	7	28	86	70%
2012 (47 centers)	6	26	66	56%
TOTAL: July 08-Present	**28**	**107**	**299**	**56% (Aug.)**

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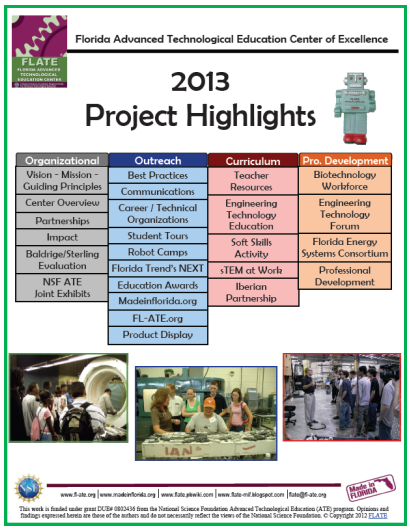
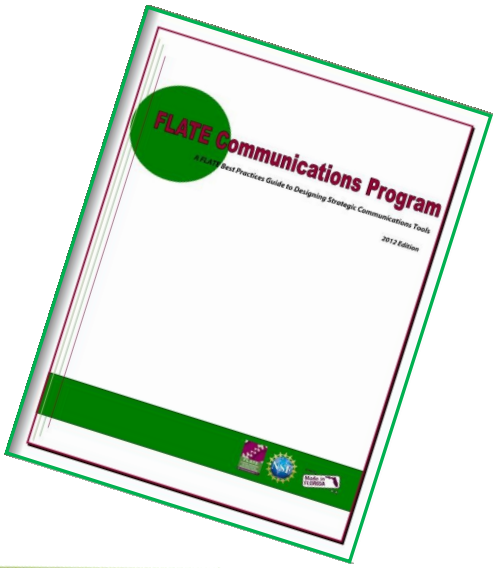
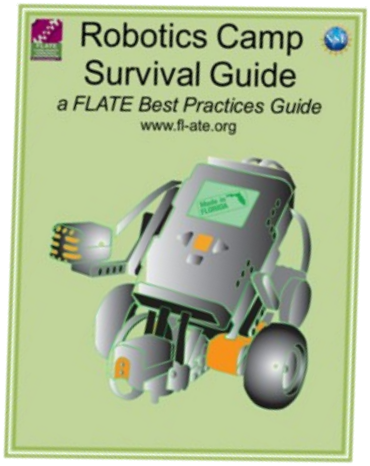
Best Practice Guides

Organizational | **Outreach** | Curriculum | Professional Development

An important part of FLATE's NSF mission is sharing our learning and expertise through dissemination. To this end, FLATE began work in 2010 on a **"FLATE Best Practice Guide"** series beginning with *Summer Robotics Camps*, and expanding to *Tours to High Tech Industries* , *Strategic Communications*, and in 2012, *Building Strategic Partnerships*. The series was constructed based on the inquiries we receive to share our FLATE-developed documents and outreach structure for FLATE camps, tours, newsletter, and strategic partnership building strategies. FLATE's response to our community of practice resulted in a compilation of "best practices" based on our experiences, focus groups, and stakeholder feedback. These booklets are available in an online print-ready format to facilitate wide range dissemination and as online flip-books on our FLATE home page.







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Communications

FLATE

Organizational | Outreach | Curriculum | Professional Development


FOCUS

Connecting Manufacturers, Educators & Students with Florida's Workforce

Get Into Gear with FLATE Awardees

Great American Teach-In Emblematic of Industry-Centric Partnerships

"Partnering with Industry for a New American Workforce"

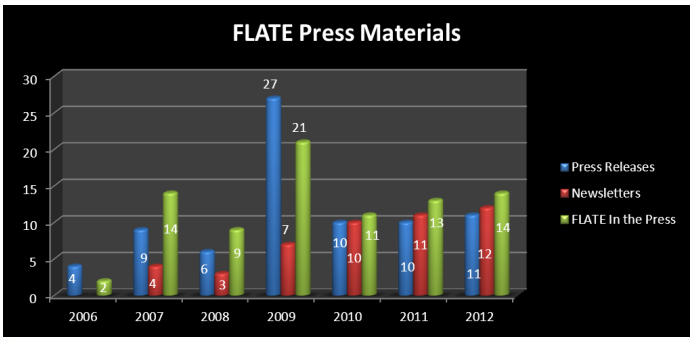
Another Use for Toothpicks

FLATE Steps Forward in Building Sustainable Industry-Education Partnerships

FLATE's Communications initiative informs FLATE's key stakeholders and the media about its multi-faceted initiatives. **FLATE FOCUS** is the monthly newsletter blog whose readership comprises of an eclectic mix of government, educational, community and industry partners from across Florida and nationwide, and it continues to have a growing distribution.. FLATE uses print, web based media outlets, and social networking tools to disseminate activities and projects to stakeholders and others.

Press materials can be accessed at www.fl-ate.org/news.

Press Materials	Description
Newsletter (FLATE Focus)	• Published since Spring 2007, and distributed to over 1000 individuals across the state and in the nation. The newsletter has evolved over the years from a quarterly paper format to a monthly blog format, and can be accessed at http://flate-mif.blogspot.com
FLATE websites	• www.fl-ate.org is FLATE's main website that has been live since 2003. • www.madeinflorida.org is FLATE's dedicated outreach website launched in 2005, and re-launched in 2010. It is designed to inform students, educators and the community about Florida manufacturing education and careers. • www.flate.pbwiki.com is FLATE's dedicated website for FREE teacher resources.
FLATE in the News	• Outlines FLATE's press coverage in regional publications. • Archives video, audio, and paper-based interviews.
Media Kit	• Quick facts on organizational information, current and future projects.
Public Service Announcements	•FLATE produced a series of regionally-focused 30 second public service announcements to promote manufacturers across Florida.
Social Networking	•To promote manufacturing education and create awareness about the statewide Engineering Technology degree, FLATE has created social profiles and videos for students/educators. Search "Made in Florida" on the following networks for more information. facebook Blogger FLATE Publications YouTube
Manufacturing News	• Published since 2006, these occasional updates consolidate highlights of industry-related news on the state and national level. Current manufacturing news is published on a monthly basis on FLATE's blog.



Feedback on FLATE Focus

"...This is the golden standard of newsletter we need to put out." Helen, Sullivan, National Convergence Technology Center

"Excellent Issue. Thanks for the well-worded plugs about opportunities in advanced manufacturing" Robert L. Mott, SME

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Made in FLORIDA

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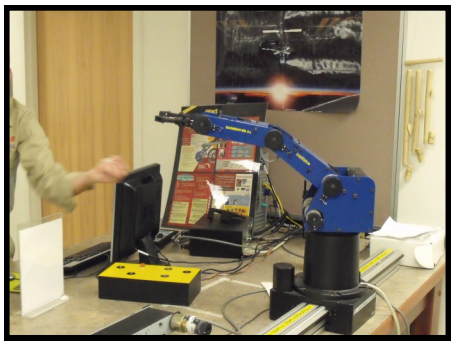
Career and Technical Student Organizations

Organizational | Outreach | Curriculum | Professional Development

These **Career and Technical Student Organizations**, through their respective missions and visions, create an environment where the students aspire to be the best in their advanced technology careers. As members, they develop their technical skills, leadership qualities, professionalism and team building as demonstrated in the local and regional competitions supported by FLATE.

Organization	Competitive Function	FLATE Contribution
First Robotics Competition	• Design and fabricate a robot • Solve a particular problem and compete against other teams • Regional contests are held in Orlando at UCF • National competitions in Atlanta • Fall classic "Tempest N Tampa" held at the University of Tampa	• Competition sponsorship • Event manpower support • Competition judging • Hosting local events
SkillsUSA	• Categories: Automated Manufacturing Technology and the Robotics and Automation Technology categories • Solve real manufacturing problems • Nationals in Kansas City to compete against the best in the nation	• Gather industry sponsors • Design and developed competitions • Event planning and organization • Competition judging • Logistical support
Technology Students Association	• Categories: Engineering Design, CAD, System Control Technology and Manufacturing Prototype • Challenged with manufacturing problems requiring instant solutions in a team competitive environment • Present solution in report form and answer questions from judges	• Technical expertise • Competition sponsorship • Competition judging



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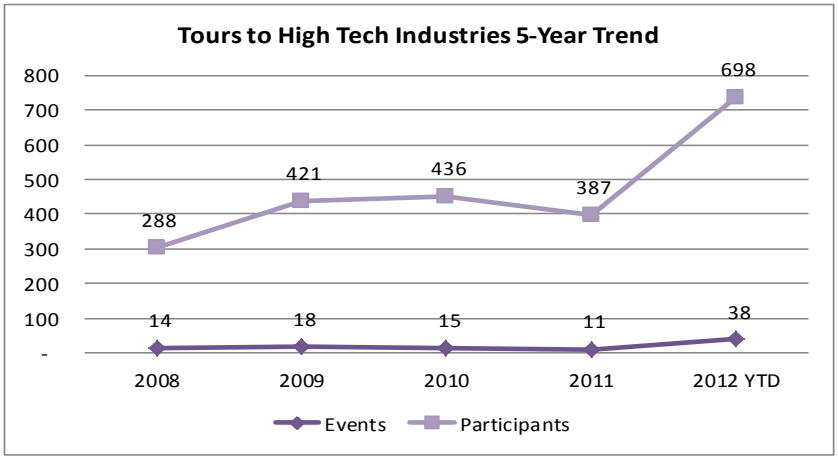
MIF Industry Tours

Organizational | Outreach | Curriculum | Professional Development

Made in Florida Industry Tours, for grades 7 through 12, are designed to stimulate student interest in today's modern manufacturing careers and encourage enrollment in the essential technology programs available throughout the state. Tours can seed a good beginning for beneficial school-industry partnerships. Since 2005, 90% of over 3,900 surveyed students said that the tours gave them information about careers in advanced manufacturing.



Tours 2004-2012	Total number
Middle & High Schools	52
Other Institutions	25
Manufacturing Sites	75
Total # of Students	3,917
Total # of Teachers & Parents	435

Cumulative data (2005-2012) for collected surveys shows a 36% positive change in agree responses toward consideration of a career in high tech manufacturing after the tour (n=2,369).

"Man! That was COOL! When I turn 18, I'm going to come back here and apply for a job."
Jim Lewis,
Dixie Hollins High School
St. Petersburg, FL

2012 Tours	
Partners	Hosts
Bay Area Manufacturing Association-(BAMA) Career & Technical Education Foundation (CTEF) Center for Advanced Manufacturing Excellence (CAME) Trinity Homeschool Academy	Alessi Bakery, Bauer, Coastal Caisson, E-One, Honeywell, Jabil, Karb Mfg, Linvatech, Lockheed Martin, MITRE, Mitsubishi, Nielsen, Pall Aeropower, PGT, Pharmaworks, Plasma-Therm, Publix Dairy, Signature Brands, SMT, SPX Fluid Routing Solutions, TAW, Townley Mfg, ValPak, Vulcan Machine

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Robotics Camps

Organizational | Outreach | Curriculum | Professional Development

The **Summer Robotic Camp** project captures the interest of middle and high school students by following the current trend of robotic applications used throughout the entertainment media. The curriculum is a mixture of Lego educational materials, STEM subjects and modern manufacturing information conducted in an environment of competitive problem solving. The campers develop a knowledge base of modern manufacturing, robotics design and programming while adding to their team building experiences.

May 2005 — December 2012	
Camp Numbers	**Details**
587 Campers since 2005	173 Girls 414 Boys
30 Different STEM Summer Camps	Co-ed Introductory and Advanced Robotics, Just for Girls, Industrial Robotics Engineering
Serving Mainstream & Special Student Populations	STEM Career Academies, Junior Achievement, YWCA, Girls, Inc., Middle and High Schools
Community Partnerships	Hillsborough Community College (HCC), College of Central Florida (CCF), Florida Gateway College (FGC), Institute for Human and Machine Cognition (IHMC), and over 8 different high tech industry and educational facilities

Kids Share:

"It was fun and cool because we got to program our robots to do whatever we wanted."
"To watch the robot go through the obstacle course was really amazing."
"The NAO Robot was the best part!"
"What I liked best was the competition."
"The challenges were the best!"

Parents Share:

"My daughter has enjoyed every day of the week. You are making a difference in all these girl's lives."
"The staff was beyond excellent and my son can't stop talking about it"
"My son had a very good experience."
"Amazing what the kids learned in a week."
"You are inspiring the future generation of engineers!"

Camps are typically five days in length and include classroom/lab exercises, team experiences, field trips, and fun!

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Florida Trend's NEXT

Organizational | Outreach | Curriculum | Professional Development

2012 marks the sixth and final year that FLATE has partnered with the Manufacturers Association of Florida and other industry partners to place content in *NEXT*, the career guidance issue of *Florida Trend magazine* provided online and in print copy to high school students statewide. Over the entire course of the sponsored manufacturing advertorial, **a total of 22,651 student leads were directly responded to by FLATE**, and forwarded to 45 Florida colleges and technical schools. The *NEXT* advertorials provided an opportunity to reach out and directly connect tomorrow's workforce to advanced manufacturing college and careers, promoting positive awareness of career pathways for Florida's high tech manufacturing jobs.

Florida Trend's NEXT (www.FloridaNEXT.com) online provides students a direct link to MadeinFlorida.org where they can learn more about career and educational opportunities in manufacturing.

This is a great service!
John R. Piersol
Florida Gateway College

DATE	PAGES	Total NEXT Distribution	Student Responses Received Annually by NEXT	Student Responses Received from Manufacturing Advertorial	Mfg Advertorial Student Responses % of NEXT Total
2006-07	100	750,000	580,319	4,360	8%
2007-08	104	750,000	803,989	4,698	6%
2008-09	96	750,000	805,461	5,762	7%
2009-10	76	400,000	417,829	2,831	7%
2010-11	70	400,000	250,789	2,301	9%
2011-12	64	400,000	249,230	2,699	10.8%

Special thank you to our 2012 sponsors:

Manufacturers Association of Florida • ConMed Linvatec • FLATE • Banner Center for Manufacturing • FCoE-BITT • Made in Florida • Hoerbiger Corporation • BASF Chemical • Mosaic

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Education Awards

Organizational | Outreach | Curriculum | Professional Development

Since 2006 every year FLATE recognizes outstanding educators, students and industry members who make a significant contribution to the training and education of today's technology workforce. Nominations are recommended following published criteria and selected by FLATE's Industrial Advisory Committee. The awardees are then recognized at the annual Manufacturers Association of Florida (MAF) Manufacturers Summit.

Award	Criteria
Manufacturing Secondary Educator-of-the-Year	• made outstanding contributions to manufacturing and/or engineering technology education • demonstrated an impact on technology education at local and state levels
Manufacturing Post-Secondary Educator-of-the-Year	• made outstanding contributions to manufacturing and/or engineering technology education • demonstrated an impact on technology education at local and state levels • demonstrated originality of ideas and techniques in manufacturing education
Industry Distinguished Service	• contributed significantly in promoting technology and career awareness in support of manufacturing • demonstrated an impact on technology education on both a local and state level through an exceptional devotion of time, effort, thought and action

JAEGER 50 Years Solutions for Education | ConMED LINVATEC | MILEO AND ASSOCIATES, INC. www.competentworkers.com | MAF Manufacturers Association of Florida

This activity supports FLATE's goal to provide an effective outreach platform.

www.fl-ate.org | www.madeinflorida.org | www.flate.pbwiki.com | www.flate-mif.blogspot.com | flate@fl-ate.org

Made in FLORIDA

This work is funded under grant DUE# 0802436 from the National Science Foundation Advanced Technological Education (ATE) program. Opinions and findings expressed herein are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Website: www.fl-ate.org

Organizational | Outreach | Curriculum | Professional Development

Fl-ate.org—FLATE'S homepage has been live since 2003. The website is the main vehicle for disseminating information and resources about FLATE activities, resources and events. **Corporate information** about FLATE and the National Science Foundation's Advanced Technological Education Program (NSF ATE) can be found under the "**About Us**" section.

The homepage highlights FLATE's accolades, videos, and information about upcoming events, working groups, committees and partners. It also features quick links to the Baldrige /Sterling Evaluation process, FLATE's outreach website, www.madeinflorida.org, the FLATE Focus newsletter blog, and FLATE's curriculum Wiki.

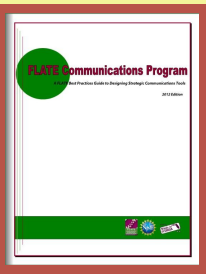
Website Favorites

Best Practice Guides

Available for download:

- Strategic Communications Best Practice Guide **(NEW)**
- Middle & high school field trips to Florida's high-tech manufacturing facilities
- Robotics Camp Survival Guide: a FLATE best practices guide

Coming soon in 2013: Industry Partnerships best practices guide



Website stats

In 2012, fl-ate.org had more than 9,000 hits with an average of 786 visitors per month.

From 2009—2012, www.fl-ate.org has received 31,563 visits!

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Website: www.madeinflorida.org

FLATE

Organizational | **Outreach** | Curriculum | Professional Development

The **"Made in Florida"** website is a rich storehouse of information connecting students, parents and educators to the real world of manufacturing. The website features resources for manufacturers and educators that can be used and integrated in various outreach-based projects. The website also features virtual tours and videos of Florida's diverse manufacturers, and provides information on career and educational pathways needed to make informed decisions about modern manufacturing careers.

RESOURCES

Florida Manufacturing Overview
Robotics Camp
Employee Interviews
Links to Manufacturing Exploring Websites
E.T. Degree Resources
Salary/Wages Information
Florida Manufacturing Facts
Outreach Kit
Manufacturing Careers & Pathways
Classroom Learning Resources
Outreach Publications
Links to Manufacturing Careers Information
"Made in Florida" Video
FLATE Contact for Assistance

NEW Company Profiles.....

CONMED LINVATEC www.conmed.com

ConMed Linvatec (Least Invasive Technology) is a global leader in the fields of arthroscopy (inspection of the inside of a joint using an endoscope), medical video systems and powered surgical instruments. Located in Largo, the company is at the forefront of technology for a wide variety of minimally invasive and orthopedic (think bones, joints, ligaments) surgery procedures. ConMed Linvatec manufactures arthroscopic instruments, implants, and tissue repair systems used by orthopedic surgeons. There are a lot of great things you could be designing and testing in the field of medical device manufacturing.

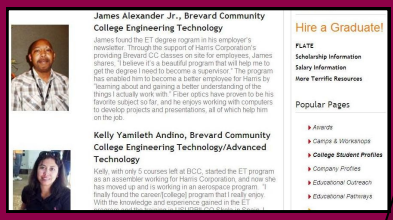
Cutting-edge CAREERS!

- Production Engineer
- Engineering Technician
- Manufacturing Technician
- Medical Device Specialist
- Quality Assurance Supervisor

CONMED LINVATEC

NEW Student Profiles.....

Find out what high school and college students in Florida are saying about the Engineering Technology Degree.



Watch the MIF video, highlighting the world of manufacturing – right here in Florida !

Website Hits Generated

Since 2009, the Made in Florida website has generated 37,624 hits, With over 30,000 page views in 2012 alone!
Learn more at:
www.madeinflorida.org

"Made in Florida" provides a comprehensive point of promotion and connection for Florida's advanced manufacturing industries, K-20 technical educators, and students.

This activity supports FLATE's goal to provide an effective outreach platform.

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Florida Manufacturers Display

Florida Manufacturers Display is located on the 2nd floor, Hillsborough Community College Brandon campus Student Services Building, by the manufacturing labs. The items donated by Florida manufacturers are either final products, used in the production process or in some cases, the raw materials. Several pieces are displayed in production stages so students can follow the manufacturing process from a piece of stock titanium to the final polished facial replacement part. These are also used during 'Made in Florida' classroom presentations and by students in HCC's Engineering Technology Program.

Companies Displayed

Sundown • Coastal Caisson• Cellynne Corp. • Signature Brands • ValPak- Cox Target Media Inc. • Pall Aeropower • Hoerbiger Corp. of America • Micron Pharmaworks • Swisher • Honeycomb Co. of America • ConMed Linvatec • Tropicana • Wen-Tel Plastics • Catrike • Florida's Natural • Tervis Tumbler • Sun Hydraulics • Biomet 3i • Applied Materials • Peterbrooke Chocolatier• Dat'l Do-It Inc.

Some products displayed in our cabinet include...

HOERBIGER

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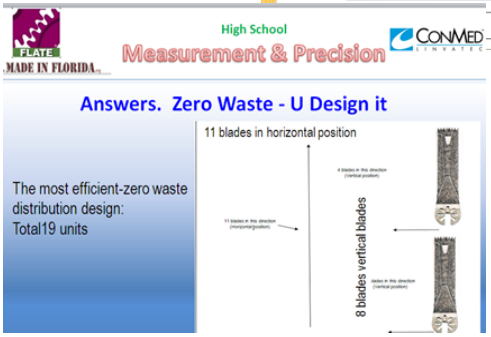
Educators Resources

Organizational | Outreach | **Curriculum** | Professional Development

Available 24/7 Online
flate.pbwiki.com

FLATE provides a wide array of resources for educators including the "Made in Florida" lesson plans that are designed to enrich Science, Technology, Engineering and Mathematics (STEM). The Career & Education Planning tools offer information on career academies, college technical degree and certificate programs in a variety of advanced technologies. Curriculum and Professional Development Modules for Advanced Technological Education provide in depth resources on a variety of high-tech engineering topics. The focus of all FLATE's curriculum resources is to fully integrate the 4 disciplines of STEM in each of its resources.

Modules	Titles
MIF Presentations	• What is Manufacturing • Measurement & Precision • ....& *more*
High School MIF Lesson Plans	• Container Design 1, 2 & 3 • Design a Tour Bus • What's a Matter • Chocolate Lesson 1 & 2 • ....& *more*
Middle School MIF Lesson Plans	• Container Design • What's a Matter • Measurement & Precision • U Fix It • ....& *more*
Career and Education Planning Lessons	• Exploring High Tech Careers • The toothpick Factory • ....& *more*
Advanced Technological Education Modules	• Alternative Energy systems • International Training- Renewable Energy in Spain • Vacuum Technology • ....& *more*



"I now have so many resources that I had no clue were out there."

MIF Lesson plans include:
Teachers: Lesson plan, reference sheet, answer sheet, grading rubric, presentation or video
Students: Lesson plan or instructions scenario, handouts needed for the lesson

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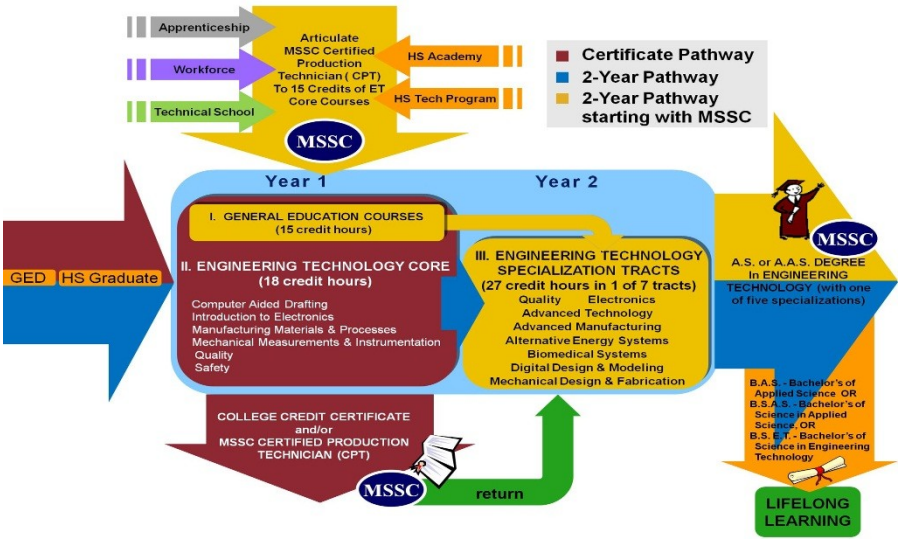
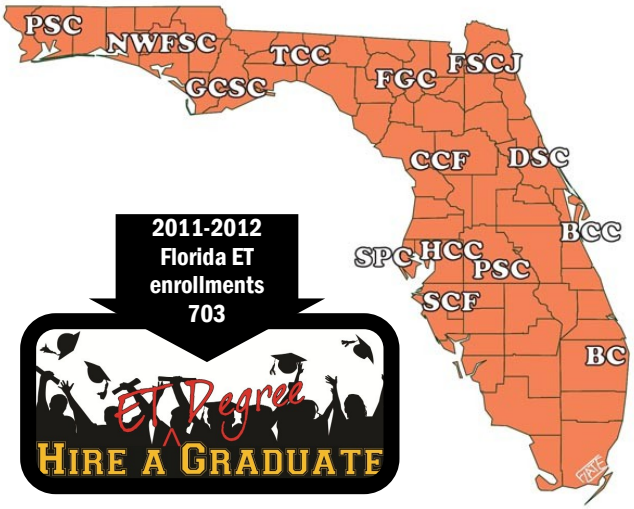
Engineering Technology Education

Organizational | Outreach | Curriculum | Professional Development

Industry, colleges, FLATE, and the Florida Department of Education partnered to produce the **Engineering Technology** A.S. Degree Program. It has 3 components: (I) general education (II) an ET technical core and (III) specialization tracts (eight) that address regional industry needs. The ET Core aligns with the Manufacturing Skills Standards Council Certified Production Technician (MSSC-CPT) national certification, which articulates 15 credit hours of the ET Core. The A.S. ET Degree articulates seamlessly to Florida's BSET degrees. This industry validated, credentialed based articulated degree is a model for national implementation of "earn and learn" strategies.





College	ET Specializations
Brevard Community College	(1)Advanced Technology (2)Electronics (3)Alternative Energy Systems
College of Central Florida	(1)Quality (2)Digital Design & Modeling
Daytona State College	*To be announced*
Florida State College @ Jacksonville	(1)Advanced Manufacturing (2)Mechanical Design & Fabrication
Hillsborough Community College	(1)Advanced Manufacturing
Florida Gateway College	(1)Quality
Pensacola State College	(1)Mechanical Design & Fabrication
Polk State College	(1)Advanced Manufacturing (2)Mechanical Design & Fabrication
St. Petersburg College	(1)Electronics (2)Quality (3)Digital Design & Modeling (4)Biomedical Systems
State College of Florida	(1)Electronics (2)Digital Design & Modeling (3)Alternative Energy Systems
Tallahassee Community College	(1)Digital Design & Modeling (2)Alternative Energy Systems (3)Advanced Technology (4)Mechanical Design & Fabrication (5)Advanced Manufacturing (6)Quality
Broward Community College	(1)Alternative Energy Systems (2)Electronics
Northwest Florida State College	(1)Electronics (2)Mechanical Design & Fabrication
Gulf Coast State College	(1)Alternative Energy Systems (2)Digital Design & Modeling (3)Mechanical Design & fabrication (4) Advanced Manufacturing

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Soft Skills Activity

Organizational | Outreach | Curriculum | Professional Development

THE TOOTHPICK FACTORY®
The simulation game for soft skills

The Toothpick Factory® is a hands-on activity, set in a manufacturing context, that stimulates discussion and awareness about a wide range of ***soft skills*** that are essential in today's work and personal relationships. These are workplace standards of behavior needed by employees to interact and cooperate effectively with co-workers.

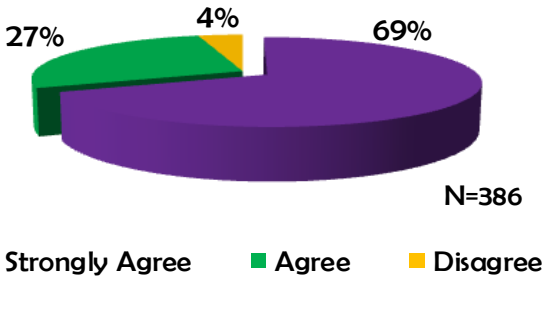
Workshop Objectives

How to be a good team player
How to adapt to change
How to lead others
How to communicate effectively
How to offer & receive feedback

Who we Impact

Over 670 students, educators and industry leaders
FLATE provides professional development to educators all over the world

This is a resourceful way to promote the importance of soft skills



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sTEm At Work

Organizational | Outreach | Curriculum | Professional Development

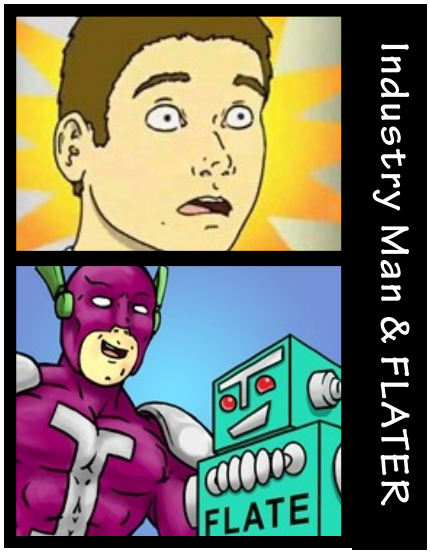
The objective of "sTEm at work" is to dispel two common misconceptions.

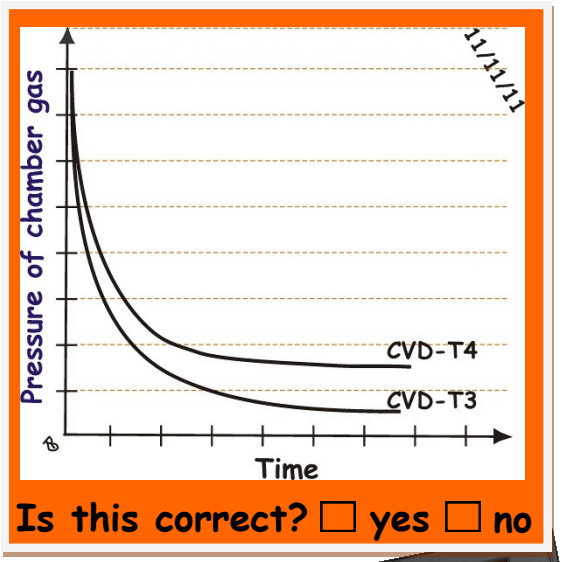
1. The letters s, t, e and m represent independent disciplines.
2. Although each discipline is interesting and has merit of its own, the operating principle behind STEM is that science and mathematics support engineering practices that culminate in a technology application.

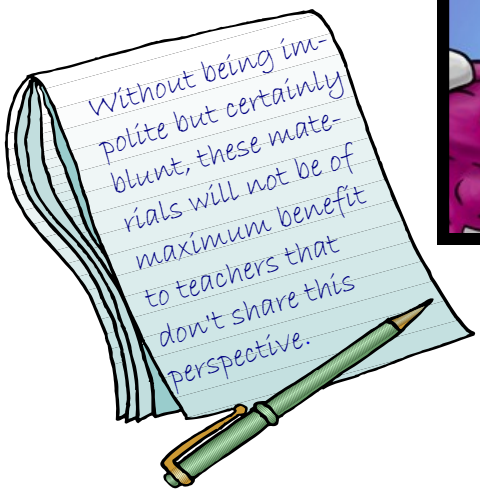
sTEm At Work
science Technology Engineering & math

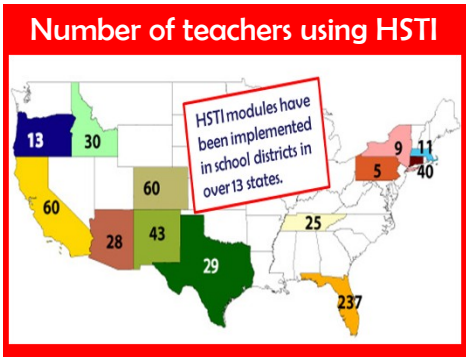
The sTEm at work initiative currently has 3 resources:

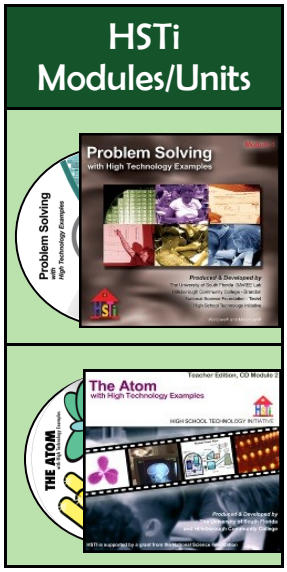
⇒ sTEm puzzles
⇒ sTEm video clips with embedded lessons
⇒ HSTi the High School Technology Initiative











High School Technology Initiative

www.HSTi-online.org

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Iberian Partnership for Technician Excellence

Organizational | Outreach | Curriculum | Professional Development

FLATE, Florida's leading resource for education, training expertise, and services created the "Iberian Partnership for Technician Excellence" Program. This international program was one of eight NSF OISE pilot projects awarded to NSF Advanced Technological Education (ATE) Centers. This 18 month demonstration program provided advanced international professional development for faculty & students in E. T. A.S. Degree programs, strengthen collaborations between community colleges, faculty, & FL Industries. The program promoted appreciation for different cultures, and contributed to enrich FL E. T. program.

Phase 1 - Exploratory

Mentors' trip

- 7 Mentors-AS Florida ET Colleges and industry worked together with the host institution TKNIKA to develop the course
- July 9 – 16, 2011

Phase 2 - Technical Training

Student Training at Hillsborough Community College, U.S.A. and USURBIL, Spain

- 8 students and 8 faculty from 4 FL AS ET Community Colleges
- Course: Special Topics in Modern Manufacturing, ETI 1931
- Students completed 3 credit hour course @ HCC & delivered in Spain
- May12 – June 02, 2012

"..I consider myself to be a more well-rounded person after having completed this overseas training. ..The academic knowledge I gained was first-class, and the cultural knowledge was something that I don't think I could have ever gotten to experience on my own".
Andrew Sink

Tknika LANBIDE HEZIKETARAKO BERRIKUNTZA ZENTROA CENTRO DE INNOVACIÓN PARA LA FORMACIÓN PROFESIONAL | HILLSBOROUGH COMMUNITY COLLEGE HCC | USURBILGO LANBIDE ESKOLA

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Biotechnology Workforce

Organizational | Outreach | Curriculum | Professional Development

The Biomolecular Identification and Targeted Therapeutics Center at the University of South Florida is a Florida Department of Education Center of Excellence. Beginning in January 2008, FLATE, the National Science Foundation's Advanced Technological Education Center for Florida, housed at HCC, partnered with BITT to facilitate the workforce development components of BITT. This activity is the basis of a BITT to FLATE $500,000 sub-award in 2008.

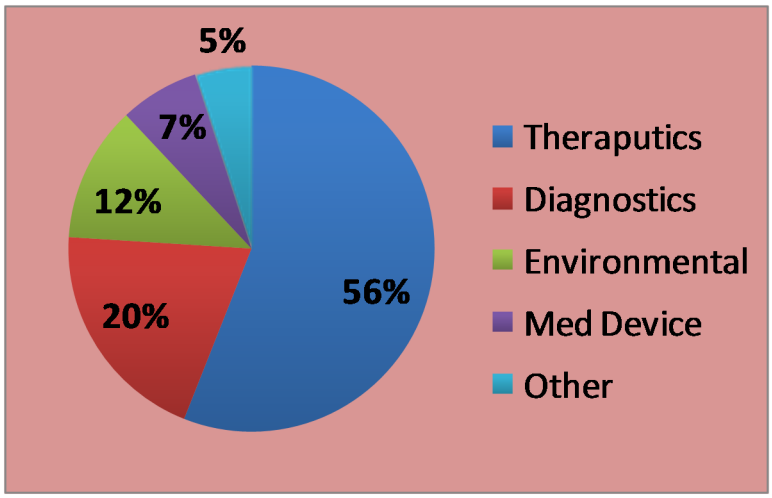
A.S. Biotechnology Degree (HCC & SCF)

General Education Requirements: TOTAL: 15 credits

Technical Course Requirements: TOTAL: 46 credits

Intro to Biotechnology	*3*
Biotechnology 1& Lab	*5*
Biotechnology 2 & Lab (Molecular Bio Cell & Immunology)	*5*
Biotechnology Internship	*3*
Human Biology	*3*
General Chemistry 1 & lab	*4*
General Chemistry 2 & ab	*4*
Organic Chemistry 1 & lab	*4*
Organic Chemistry 2 & lab	*4*

Bio-Related Industries in Tampa Bay



Workforce Development Survey	Results
Preferred Education Level	Bachelor's Degree
Technical Job Categories	Chemist, Research Scientist, QC Manager, Engineer, Lab Technician
Market Base	Local to International
Internship Program	Yes—30% No—64%
Tuition Reimbursement	Yes—32% No—68%

The survey was administered to 139 biopharmaceutical, medical device manufacturers, and research & development industries in the greater Tampa Bay area. The survey completion was 36%. It was designed with a balance between comprehensive training needs and workforce skills knowledge acquisition and simplicity to optimize in its return rate. The objective was to determine directly from companies in the region what specific skills were required to do certain jobs as well as educational requirements perceived necessary for their workplace.

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Engineering Technology Forum

Organizational | Outreach | Curriculum | Professional Development

FORUM on Engineering Technology

The **Forum on Engineering Technology** (E.T. Forum) is an important vehicle for bringing together Florida's diverse and geographically dispersed community. FLATE works with this organization to strengthen the consortium, share its administrative activities and projects, provide professional development, bring industry and academia together, engage in statewide curriculum reform. It's a strong venue for sharing college program achievements, issues and concerns across Florida. Over the years, it has become a true community of practice. The Forum meets twice a year; the 2-day meeting has met twenty-nine times since 1996 at over 19 different Florida colleges.

ET Forum Impacts

- ✓ Leads reform of statewide A.S. curriculum
- ✓ Provides a platform for strong partnerships among colleges
- ✓ Reforms & organizes state ET common numbers
- ✓ Unifies input to Perkins IV implementation
- ✓ Supports CAPE and other CTE legislation
- ✓ Aligns external standards to student outcomes and frameworks
- ✓ Supports strong community of practice
- ✓ Brings state agencies together with educators
- ✓ Offers professional development opportunities
- ✓ Supports FLDOE review initiatives

"Being part of the Forum is a great benefit to me and the AMTC's growth."
-Bruce Batton,
Program Manager, AMTC
Tallahassee Community College

ET Forum General Meeting Cumulative Satisfaction Rating 2007-2012	
Curriculum	4.1
Professional Development	4.2
Recruiting	3.9
***Based on 320 returned surveys** **Rating Scale= Excellent-5, Very Good-4, Good-3**	

"I am really impressed with what FLATE has done and how all the engineering programs in the state coordinate.

That does not happen often, and it is good for the students, the programs, industry, and the Florida taxpayer for coordination to happen."

- John R. Piersol, Executive Director
Industrial & Agricultural Programs
Florida Gateway College

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Florida Energy Systems Consortium

FLATE

Organizational | Outreach | Curriculum | Professional Development

FESC Florida Energy Systems Consortium

The 2008 Florida Legislature defined goals and specific objectives with respect to energy production and consumption to meet its 2020 target criteria. The FESC-FLATE partnership defines FLATE as FESC's core facility for community college technical workforce education development and deployment throughout the state. FESC is strategically focused on workforce preparation for the existing and emerging energy industry. Many energy-industry educational opportunities are available throughout the state, while other exciting opportunities are being developed. FESC is working to coordinate these efforts and ensure that existing distance education facilities at each university will be utilized to make these programs available via on-line courses.

*NEW! Industrial Energy Efficiency Specialization

The new **Industrial Energy Efficiency (IEE) Specialization** for the Associate of Science Engineering Technology (ET) degree and associated College Credit Certificate, is *designed to match training directly to industry needs.* It comes at a time when Green job sectors are flourishing and interest in reducing operating costs by maximizing energy efficiency is growing significantly, both in Florida and throughout the nation. The framework will be submitted to the Florida Department of Education in December 2012 and will be available for college adoption in the 2013-2014 academic year.

Engineering Technology A.S. Programs

College Credit Certificates:

1. Alternative Energy Systems Specialist (offered by Brevard and Tallahassee Community Colleges, State College of Florida and, in 2013, by Gulf Coast State College).
2. Industrial Energy Efficiency Technician* (available in 2013).

A.S. Degree Specializations:

1. Alternative Energy Systems Technology (offered by Brevard Community College, State College of Florida and Gulf Coast State College in 2013).
2. Industrial Energy Efficiency* (available in 2013).

DATE	2012 EVENTS
6/26-27	Energy Workshop for Teachers
7/9-12	Summer Energy Camp for Students
8/16	Energy Summit Poster Presentation
9/11-13	Solar Power International Conference
9/27-28	Engineering Technology Forum
10/26	Florida Association of Science Teachers (FAST) Conference
11/13-15	IREC Clean Energy Workforce Education Conference
11/7	Florida Energy Workforce Consortium Meeting
12/6-7	Manufacturers Association of Florida Summit

Community College Workshops

Last year, FLATE and FESC sponsored an energy workshop for high school and college educators at the Center for Innovation and Economic Development at Santa Fe College in Gainesville, FL. Feedback received about the event was overwhelmingly positive – "All of the presenters did a great job!", "Very informative!", "Really nice event – enjoyed the information", "Great networking opportunity!", "Good ideas and equipment for labs". Following the success of last year's event, FLATE will be coordinating a second workshop at the Florida Solar Energy Center, in January 2013.

Summer Energy Camps and Teacher Workshops

The energy-related camps and workshops were part of a network of camps and teacher workshops offered at Hillsborough, Brevard and Tallahassee Community Colleges, and Florida State College at Jacksonville, to raise awareness about careers in alternative energy.

Camp Feedback

"It's interesting and makes me think I might want to be a scientist!"

"I really like all the hands-on activities—they're a lot of fun."

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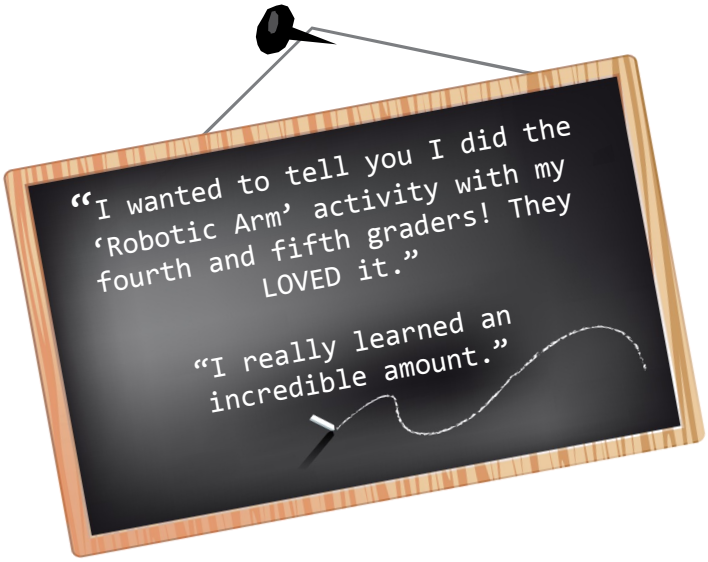
Professional Development

FLATE **Professional Development** for technical faculty and educators in STEM curriculum provides opportunities to develop, refine or certify their knowledge base within manufacturing and/or its related enabling technologies and educational pedagogies. Workshops take advantage of the summer break for educators, and are offered by request throughout the year to college faculty and K-12 teachers. 2012 Workshops included the second annual FLATE Summer Institute focused on Mechatronics, grant writing workshops, the third annual FLATE Summer Teacher Camp for Teachers, and hands



# Of Hours of Professional Development Provided	# Of Educators that Participated	# Of Workforce, Economic & Manufacturing Personnel
10,863	21,577	7,029

*Data collected at hundreds of events in Florida, nationally & worldwide from 2008-2012.

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Made in Florida

Industry, Educators and Students

Connecting Manufacturing Excellence since 2004

www.fl-ate.org

www.madeinflorida.org

www.flate.pbworks.com

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