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I. Introduction.

The publication of this five-year strategic plan for Florida’s STEM (Science, Technology, Engineering, and Math) movement coincides with incorporation of STEMFlorida, Inc. as the not-for-profit enterprise missioned to ensure leadership for Florida’s STEM movement. It also accompanies the release of the Florida’s 2011 State of STEM report and ThinkSTEM, a think tank in Orlando focused on leadership for Florida’s STEM movement. The 2011 State of STEM report, included in this Plan, provides a snapshot on how Florida cultivates talent and graduates in science, technology, engineering, and math fields. It also presents insights into the health of Florida’s supply of STEM-enabled workforce and deeper gauges of the state’s ecosystem relative to STEM in areas including collaboration, climate, and research.

“STEM careers have gained global attention in regions and communities seeking to gain the competitive foothold.”

Ken Ross
Lockheed Martin Simulation,
Training, and Support

Thanks to the guidance of STEMFlorida’s Business Steering Council (BSC) and many key partners throughout the final phase of its pre-launch work, the State of STEM report also considers job growth, the climate of the state relative to STEM, and other indicators that underscore a significant shift in how Florida focuses on STEM: it is an imperative that cuts across talent and economic/community development, education and life-long learning, strategic philanthropy and community stewardship, and business retention and regional prosperity.

In June of 2009, Workforce Florida, Inc. (WFI) and Enterprise Florida, Inc. (EFI) announced a \$580,000 grant from the Board of Workforce Florida to fund a strategic initiative titled STEMFlorida, aimed at diagnosing the needs of STEM-enabled employers and improving the skills of Florida’s workforce for STEM fields. The announcement followed foundational collaborative work with key partners including the Florida Council of 100, the Florida Chamber Foundation, and the Florida Department of Education. To help set strategic vision and guide the initiative, STEMFlorida’s Business Steering Council (BSC) convened, and was comprised of industry leaders from some of Florida’s key STEM employers, and members from key state and regional partners. At

“STEM talent is the key to economic development.”

Jennifer Grove
Gulf Power Company

the core of the STEMFlorida initiative and movement, a simple intent has guided the effort: ensure leadership for Florida’s STEM movement by connecting relevant education and talent development programs, philanthropic stewardship, economic and community development collaboratives and strategy around the demand-side need of Florida’s current, emerging, and target STEM employers.

The framework used to develop this plan is known as the Enterprise Goals Model, developed by Fairfield Index, Inc. and previously implemented in Fortune 500 corporations, public private partnerships, agencies, and not-for-profits. The US Department of Labor best practice, the current strategic plan of Workforce Florida, *Creating the Strategy for Today's Needs and Tomorrow's Talent*, is built around the Enterprise Goals Model.

“...We should determine why these graduates leave the state - were they originally Florida residents? ... Why did they leave? Were they recruited by companies outside the state?”

The model allows strategy to lead governance structure in revisioned or formative enterprises, and encourages systems of efficiency and accountability.

This strategic plan of the formative STEMFlorida, Inc. includes eight priority projects, identified by the Business Steering Council of STEMFlorida with input from collaborative partners and experts who have supported and assisted with the initiative.

Throughout the development of this plan and the rounds of due diligence exercised throughout 2009 to date, the landscape of the state's STEM movement has been considered and evaluated and multiple sector- or geographically-specific STEM initiatives and strategic plans in Florida have been reviewed for consideration and have helped inform this plan, titled *STEM Leadership for Florida*. Among these initiatives and plans are the priorities of the Florida Chamber Foundation's Talent Supply and Education Caucus; the strategic goals of *Creating the Strategy for Today's Needs and Tomorrow's Talent*; Enterprise Florida's *Roadmap to Florida's Future*; the education imperatives identified by the Florida Council of 100's 2011 *Closing the Talent Gap* report; and numerous recommendations and needs encapsulated by strategic plans and STEM initiatives throughout the state, including the strategic STEM plan prepared by Florida State University's FCR-STEM at the Learning Systems Institute.

Meanwhile, business roundtables and numerous diagnostics and scans of regional economic development, business retention, and STEM-enabled employer needs have informed this Plan. The framework for measuring status across several key indicators relative to STEM are set out in *The Best STEM Scorecard*. The Scorecard, included as a component in this plan, has been developed as an integrated component of each of this Plan's Projects. The Scorecard sets a new structure for the State of STEM report, and sets precedent for how ongoing situation assessments Florida's STEM movement can be designed and explained in context and with the greatest likelihood of impact and efficacy.

“We are seeing regional collaboratives and our state's leaders standing up around this effort to convene, connect, and launch STEM priorities for Florida.”

- Dr. Jimmie L. Davis, Jr., STEMFlorida Business Steering Council *Chair*; The MITRE Corporation

II. Statement of Intent - Phase II Planning Process.

Since its formation in 2009, STEMFlorida has reviewed the competitive priorities of employers who rely on science, technology, engineering, and math (STEM) to win and grow; and professionals who prepare Florida's talent for the future. Our role is clear as we transition from Phase I to Phase II of our work:

- Re-think STEMFlorida so that it is a flexible, dynamic, and responsive enterprise for the next generation
- Ensure that there is one STEM movement for the nation's fourth largest state by collaborating with and adding valuable resources to state-level initiatives
- Link our work directly to other Florida initiatives that measure and market our growing role on the global STEM stage
- Honor the feedback from Florida's diverse regions by positioning the best resources to link industries to the STEM movement
- Continue to re-state the ever-broader impact STEM talent has on companies of all sizes, in all sectors
- Provide business with efficient and clear pathways to communicate, engage, and compare

Mission.

STEMFlorida drives Florida's leadership in STEM by connecting business, industry, economic development, philanthropy, workforce, and education around the issues that impact and support innovation and growth in Florida's existing and emerging industries, employers, and entrepreneurs.

Other states and regions around the globe have made STEM a table stake for jobs, capital, and innovation. Rising Above the Gathering Storm, a 2005 report requested from the National Academies by Congress described the workforce needs of the 21st century and the nation's current gaps and opportunities in providing the STEM workforce. The need for improving STEM talent development has been highlighted by reports of the Business-Higher Education Forum in 2005 and 2007. STEM received special Congressional attention in the 2011 Congressional budget and the reauthorization plan.

Following preliminary partnership and work with the Florida Chamber of Commerce, the Florida Council of 100, and the Florida Department of Education, in June of 2009 Workforce Florida, Inc. and Enterprise Florida, Inc. announced the creation of a statewide council to strengthen the STEM skills of Florida's talent as a way to address the increasing demand for jobs requiring strong foundations in these areas. STEMFlorida, funded by a \$580,000 grant from Workforce Florida, launched to connect business, economic development, workforce, and education leaders to identify the opportunities for building and measuring the state's supply of workers with STEM proficiency and skills, in fields that support innovation in existing and emerging industries.

STEMFlorida will now expedite Phase II. Our stakeholders are asking for a clear resource playbook; over the next 200 days, we will deliver the following:

- A re-imagined portal
- The state-level enterprise plan for industry engagement, including compilation of STEM talent development program opportunities for engagement and replication
- Mapping and information flows to policy teams, integrated communications, and marketing programs
- A simple, credible framework to ensure competitive messages, alignment with business needs, and revelation of critical gaps
- A plan for sustainability

Florida's objectives must remain steady:

- We must demonstrate global leadership in STEM talent development
- We must set the tone for a business-driven agenda to encourage STEM proficiency and activities in life-long learning to move forward, to share, and to measure

III. Situation Assessment.

The STEM Florida Business Steering Council has worked through a planning period marked by global economic recession and uncertainty in many of Florida’s traditional industry sectors. STEM Florida’s Scorecard Team working group, chaired by Dr. Carrie Blanchard of the Florida Chamber Foundation, identified a view of Florida’s STEM ecosystem through a series of four main categories. These categories include Talent, Education, Climate and Collaboration, and Research. While some of the data is concerning, many new outcomes of the STEM Florida planning process lead to intensified collaborative efforts across the state and region.

In other cases, the launch projects of STEM Florida, Inc. are set to apply intelligence and mapping capability to geographically- or regionally-specific STEM initiatives which previously operated in disjointed silos throughout Florida.

In the days prior to the launch of STEM Florida, Inc., the U.S. Chamber of Commerce announced Florida’s Workforce and job Training as top in the nation. Also during the planning process, Florida shot to the top of CNBC’s national annual rankings in the Workforce Categories, from a previous ranking in 2010 of third. Meanwhile, however, Florida ranked 46th in the nation for the number of science and engineering degrees awarded according to the Beacon Hill Index. However, signs continue to indicate that a shift is underway in the demands

“I think what you have to ask yourselves is how much do you want to try to intervene and shape the economy as opposed to letting it just happen on its own. I mean, what we’ve relied on in the past, rightly or wrongly, is population growth and we’ve allowed that to drive the kinds of jobs we’ve created and the kinds of growth we’ve had in income.”

- Amy Baker, *Coordinator and Chief Economist* - Office of Economic and Demographic Research, Florida Legislature [Transcript excerpt from Workforce Florida Strategy Council’s Tier 2 Briefing on Florida’s Workforce, Economy, and Demographic Trends, available online at www.WorkforceFlorida.com]

“Demand for STEM occupations increased over the year from May 2010 to May 2011 by 1.5%, while over the same time period, overall labor demand increased by 20.7%.”

- Warren May, *Economic Manager Information Delivery and Analysis* - Florida Agency for Workforce Innovation, Labor Market Statistics Center; STEM Florida Scorecard Team Participant

on that workforce as Florida’s and the global marketplace evolves. As reported by the Florida Council of 100 in *Closing the Talent Gap*, over the coming decade nearly nine of each 10 new jobs will require education beyond a high school degree, with credentials in STEM disciplines increasingly important for fueling value job creation.

While Florida’s workforce has garnered accolades and positive attention, several emerging efforts continue to connect the demands of the state’s marketplace of employers with the supply of Florida’s talent development and educational systems. Just as STEM Florida and the BSC developed the framework of this strategic plan throughout 2010 and the first half of 2011, Florida’s Higher Education Coordinating Council noted plans to map degree and educational programs throughout the

state. Concurrently, Florida’s *Talent Supply Chain Team* emerged as a team of respondent leaders from early learning through lifelong learning, state colleges and career academies to research universities, and across both public and private pipelines.

As Florida’s *Talent Supply Chain Team* has assembled and reviewed their priorities and roles in the state, the team has expressed strong interest in utilizing the knowledge and industry listening post of STEMflorida, Inc. as it emerges to connect the state’s STEM priorities from the employer and target industry cluster to each of Florida’s eight economic development regions.

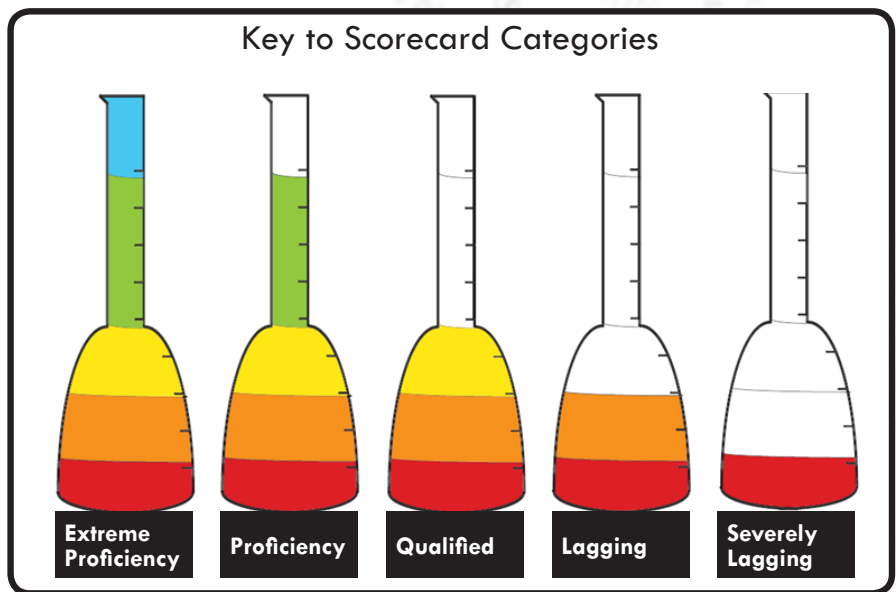
As Change the Equation notes in the 2011 *STEM Vital Signs* report, young people in Florida and across the U.S. will compete for the jobs of today and tomorrow with learners and workers across the globe. Strong foundations in STEM are imperatives for success. Despite this and many calls to action for STEM-enabled education and talent development, large percentages of Florida’s students note that they seldom write reports or discuss the outcomes of science projects.

On the National Assessment of Educational Progress, only 29% of 8th grade students in Florida ranked as proficient in math, compared to the 66% of Florida 8th graders who ranked proficient based on FCAT scores.

The Best STEM Scorecard.

Throughout Phase II of STEMflorida’s work, a working group known as the STEMflorida Scorecard Team convened chaired by Dr. Carrie Blanchard of the Florida Chamber Foundation. The Scorecard Team, comprised of select Business Steering Council members and key partners, conducted an in-depth analysis and reviewed existing data sets relevant to Florida’s STEM movement, and analyzed global scans of best practices in STEM measurement. The team identified four key categories of indicators:

- Talent
- Education
- Climate + Collaboration
- Research



While these categories will integrate new and emerging data following adoption of this plan and implementation of key priority Projects, the categories of *The Best STEM Scorecard* currently inform the 2011 State of STEM report (included as an Appendix to this Plan) and provide a clear status view of Florida’s STEM movement.

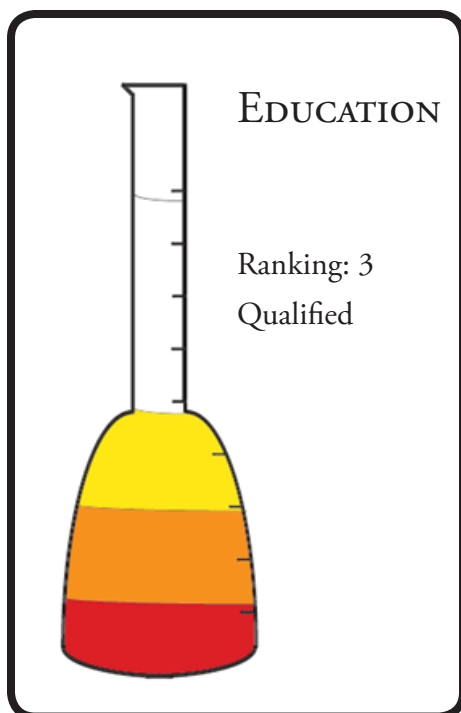
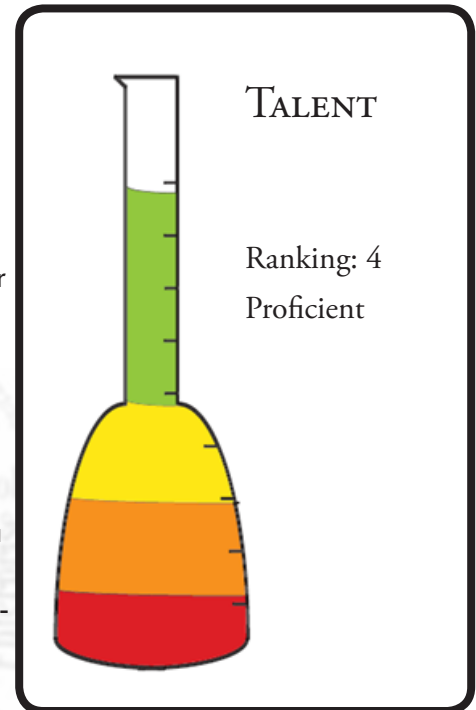
SCORECARD CATEGORY: **TALENT**

On *The Best STEM Scorecard*, Florida currently ranks 4 for Talent, with the status of Proficient.

There is a significant amount of need for improvement as Florida's STEM movement builds momentum with the launch of STEMFlorida, Inc. One indicator, the Beacon Hill Index, ranks Florida at 40th in Technology. The Kauffman Foundation ranks Florida 29th for IT professionals, and 33rd for Knowledge jobs in the nation.

Meanwhile, the U.S. Chamber of Commerce announced on June 20, 2011 Florida ranked #1 in the nation for Workforce and Job Training. The Chamber's report noted positive indicators ranging across job placement, the efficiency and affordability of higher education, and Florida's Quick Response Training Program (QRT). CNBC's annual rankings proved Florida as top in the nation in the Workforce category. Analysis of Florida's Help Wanted Online (HWOL) numbers indicate that Florida does show a significant increase in job ads for STEM statewide. There is also increase in most jobs according to long-term projections in the STEM fields.

While this is a favorable ranking in terms of availability of jobs, additional linkage between supply and demand is needed to bolster this ranking on the Scorecard.



SCORECARD CATEGORY: **EDUCATION**

In the Education category, *The Best STEM Scorecard* ranks Florida at 3 for Qualified. Throughout STEM areas, FCAT scores prove low. The Beacon Hill Index ranks Florida 46th in the nation for the number of science and engineering degrees conferred. Alternately, statistics regarding under-served populations have shown recent improvement.

Florida's teachers, according to *Change the Equation's State Vital Signs*, are lagging in the necessary education for their subjects. Fewer than half of Florida's 8th grade math teachers actually possess a degree in mathematics. In general, higher education indicators in Florida prove relatively low. The state is producing a fair amount of associate degrees, but STEM graduates at the Master's and Doctorate levels are relatively low.

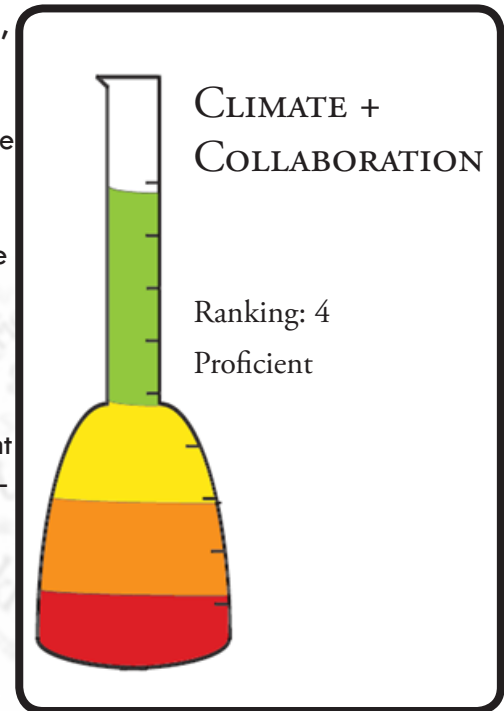
SCORECARD CATEGORY: CLIMATE + COLLABORATION

On *The Best STEM Scorecard*, Florida currently ranking of 4 (Proficient) for Climate + Collaboration.

Throughout the development of this Plan and *The Best STEM Scorecard*, collaborative policy breakthroughs have been raised to the attention of the STEMflorida Business Steering Council. This has included efforts to demonstrate urgent responsiveness to emerging industry needs at the career and technical education (CTE) level, with collaborative work to address STEM-enabled needs by partners across the Florida Department of Education, Florida’s workforce development system through the Employ Florida Banner Centers, and with input and support from business leaders of STEM industry.

The state has recently adopted an integrated approach to seamless economic development delivery through the creation of the Department of Economic Opportunity (DEO), and targeted industry clusters and talent show promise of tightening the feedback loop between the supply side of talent and the demand side of Florida’s STEM-enabled marketplace. Emerging efforts surrounding Florida’s Talent Supply Chain Team, an assembled team of leaders across the educational/talent pipeline from early learning through post-graduate university-based research learning demonstrate responsiveness - the Talent Supply Chain Team has prioritized STEM and asserted eagerness to understand the emerging needs of STEM-enabled employers so that those needs may be articulated into the talent/learner delivery system.

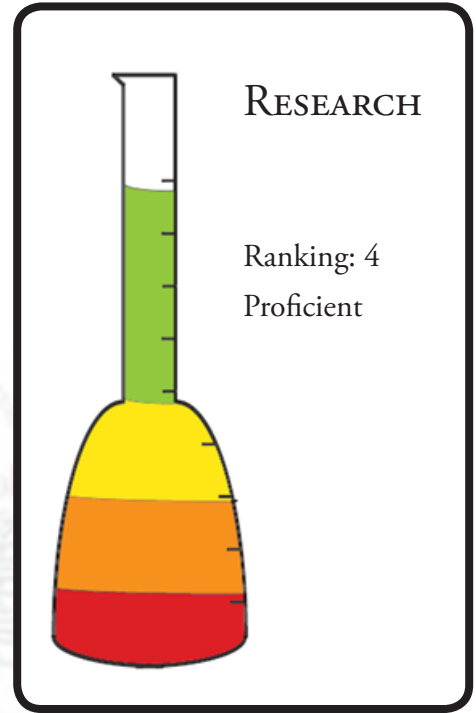
The movement towards paying attention to students beginning at Pre-K, and in context of eventual entry into the workplace, is becoming a national standard; the state appears to be moving on the right on track with that. Florida’s workforce, having ranked top in the nation, has helped bolster the rankings across both sub-categories of Climate and Collaboration. Florida’s successful win of Race to the Top dollars shows tremendous impact among the indicators in this category. However, Florida’s Gross Domestic Product is lower than the National Gross Domestic Product.



SCORECARD CATEGORY: RESEARCH

The Best STEM Scorecard ranks Florida at 4 in the Research category, for Proficient. The state's research universities significantly bolster rankings in this category. According to Wells Fargo, Florida has a positive regional advantage in more than 17 industries.

Funding and capital are emerging areas of concern, however. Florida's Venture Capital took a huge dip this past year (-36.2% in 2010 from a +26.4% in 2009). Additionally, legacy positions of Florida research universities on the annual Patent Scorecard Rankings have suffered in recent years as well.



IV. Plan Summary and Accessibility.

The Framework of the Enterprise Goals system used for development of this Plan is not an organizational chart. It is a collaborative tool designed to focus limited resources on the most market-relevant and critical needs aimed for systemic reform of Florida's STEM talent pipeline and economic development toolkit. It is built in context of partner plans, including Workforce Florida's five year strategic plan, *Creating the Strategy for Today's Needs and Tomorrow's Talent* (2010 - 2015).

The graphic representation of the Framework includes seven interrelated components. A key shown on page 10 is provided to help link this descriptive narrative to the graphic of the Framework.

1. Emerging Florida Scorecard/Aspiration. Recognizing the potential for alignment and a cross-agency/enterprise scorecard for Florida, the Business Steering Council of STEMFlorida adopted acknowledgement of this resource into the formative framework for the enterprise. Florida's Scorecard, launched and hosted by the Florida Chamber Foundation and informed by the work of the Foundation's Caucus system, is defined as follows:

An economic barometer released by the Florida Chamber Foundation in the 4th Quarter of 2009 provided "real time" tracking and assessment of the state's economy using data from a variety of sources, including the Agency for Workforce Innovation, the U.S. Census Bureau, and the University of Florida Bureau of Economic and Demographic Research.

The scorecard uses dozens of metrics including graduation rates, venture capital investments, corporate income taxation levels, health care costs and state-to-state comparisons to assess the Sunshine State. The six categories measured through data aggregation by The Florida Scorecard are Talent Supply and Education; Innovation and Economic Development; Infrastructure and Growth Leadership; Business Climate and Competitiveness; Civic and Governance Systems; and Quality of Life and Quality Places. More information can be found at www.TheFloridaScorecard.com.

2. 7-7-7 Plan. During the planning process of the emerging STEMFlorida enterprise, Florida Governor Rick Scott announced an aggressive plan for job creation. It is the intent of the Board of STEMFlorida, Inc. to bolster this effort and improve the state of prosperity for Florida's STEM-enabled industries, workers, learners, families, and communities by fostering support and connectivity for STEM as a key element in the state's economic and talent delivery system.

3. Strategic Goals. The four strategic goals of this plan embody the intent and focus of the Board of STEMFlorida, Inc. As a matter of Board policy, they are achievable. Unlike the Emerging Scorecard/Aspiration and the 7-7-7 Plan, they are each under the control and leadership of STEMFlorida, Inc.'s Board. Distinguishing adjectives such as "credible", "best", "clear", and "responsive" are utilized to invite accountability and proof of progress-to-goal and promote the questions "how so?" and "how do you know?" Consequently, these descriptors demand formation of objectives. Each of the strategic goals is interdependent and of equal priority, and are intended to orient all audiences to the business of the STEMFlorida, Inc. enterprise. They represent what the STEMFlorida, Inc. Board believes to be the best formula for advancing STEM as a demand-driven tool and toolkit component in a demand-driven system for STEM-enabled economic diversification, development of a global reputation for leadership in STEM, and increased prosperity for the STEM-enabled learners and industries who call Florida "home."

4. Objectives. Objectives are implied by the strategic goals of STEM*florida*, Inc. and vice versa. They define the strategic goals and qualify adjectives and success. Over the life of the plan, they serve as proof of progress-to-goal. Given the complexity of projects, the objectives may include traditional metrics, marketing, desired policy language, research, and behavioral/customer satisfaction indexes.

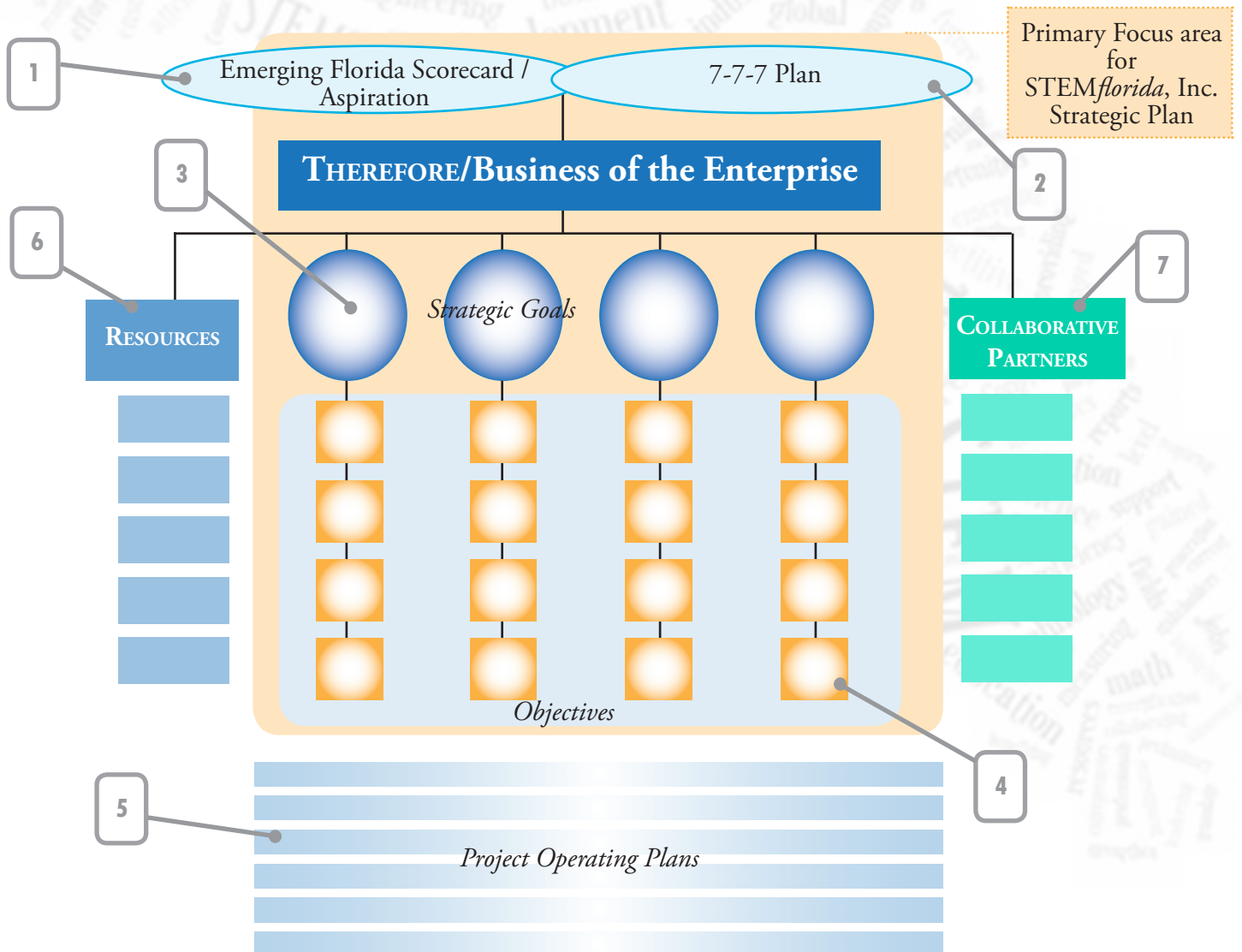
The Objectives of STEM*florida*, Inc. are shown below in context of the Strategic Goals:



5. Project Operating Plans. Approval of *STEM Leadership for Florida* demands operational response. Projects, working groups, initiatives, and staff must identify the project leads, resources, and tactical steps required to make strategic goals and objectives possible. Once aligned with the framework, the operating plans allow for creative interventions, analysis, and reforms by the Board of STEMFlorida, Inc.

6. Resources. Resources include all infrastructure, systems, contracts and contractors, and budgets which could potentially respond to, support, or inform operating plans for projects.

7. Collaborative Partners Over time, any enterprise sharing or potentially sharing strategic goals and/or objectives with STEMFlorida, Inc. may become a collaborative partner guided by accountabilities outlined in a Memorandum of Understanding (MOU). As partner regions, enterprises, agencies, and members of the STEMFlorida, Inc. College of Advisors conclude the need for shared action, efficiency, and shared accountability, STEMFlorida, Inc. is positioned to leverage resources, share scorecards, and ensure the best-equipped organization or team takes the lead on critical or emerging demands and issues.





*This group, shown in alphabetical order, is representative of Collaborative Partners for *STEMflorida* all of which are guided by MOUs between *STEMflorida* and the Collaborative Partner enterprise.



STRATEGIC GOALS

OBJECTIVES

VII. Project Operating Plans.

Eight priority Projects launch with the emergence of STEMFlorida, Inc. and the adoption by its formative board of this Plan. These priority Projects have been identified through the guidance of STEMFlorida’s Business Steering Council and follow rounds of due diligence and interactive engagement with STEM stakeholders throughout Florida’s economic development regions and with partners from education and talent development, philanthropy, business retention, policy, and partners across key agencies, enterprises, and collaborative efforts.

The eight launch Projects are shown below, with notation to the Objectives informed by each.

A	Source and Develop <i>The Best STEM Scorecard</i> to Gauge Proficiency of Florida’s STEM Movement, with upstream linkage to Florida’s Scorecard and Channels for Data-gathering of Minority, Women, and Under-served Populations’ Access to STEM Programs and Activities [Objective 2]
B	World-Class Communication of STEM Values and Successes for Partners and Policy Leaders, Employers, Philanthropy, Parents, Students, and Educators; and Integrated throughout STEMFlorida Projects [Objectives 5, 10, 15]
C	Establish STEMFlorida Portal with Relevant Data, Linkage to Collaborative Partners, and Pathways for Customized Regional Engagement in Florida’s STEM Movement and Evergreen Tools for Learning and Engagement by Florida’s Existing, Emerging, and Potential STEM Employers [Objectives 8, 9]
D	Develop Situation Assessment of Florida’s STEM Movement for Florida’s <i>Talent Supply Chain Team</i> , with Priority Recommendations for Interventions or Demand-driven Improvements, informed by <i>The Best STEM Scorecard</i> and Regional and STEM-enabled Industry input [Objectives 12, 13]
E	Develop STEM Jobs Index with Methodology for Determination of “STEM Industry” and “STEM Job” tailored to Florida’s unique job growth and economic development strategies and set to inform <i>The Best STEM Scorecard</i> and related efforts; as well as Project D. [Objectives 9, 17]
F	Maintain Support and Advocacy of STEM Priorities outlined in Project D, including Linkage of Bright Futures Scholarships to STEM degrees and Articulation of STEM Employer Demands to RTTT CTE/STEM Qualifications and Employ Florida Banner Centers and career academies [Objectives 14, 16, 18]
G	Develop User-friendly State-wide System for Soliciting and Tracking STEM Internships, Externships, and Apprenticeships linked to STEMFlorida and CPALMS; and Inventory of STEM Priorities and Efforts with Channels for Input from Regional Partners [Objectives 3, 7]
H	Establish STEMFlorida Enterprise Dashboard to Ensure Sustainability for Fulfillment of Demand-driven Mission with Competent and well-trained Staff, Adequate Resources, and Clearly-defined and Successful Collaborative Partnerships [Objectives 1, 4, 6, 11]

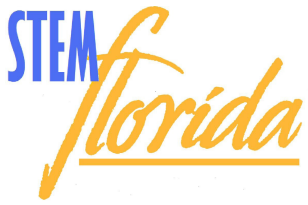
VII. Project Operating Plans.

Operation planning commences with the adoption of this Plan and incorporation of STEMFlorida, Inc. It is the intent of the board to launch into a rigorous but fast-paced period of operational planning, commencing with the priority projects identified through *STEM Leadership for Florida*. Key staff and tactical support, at the direction of the President of STEMFlorida, Inc., will stage operational planning in any manner that helps pilot and refine these key priorities with accountability. Resource staff and support, along with collaborative partners involved in operational planning are empowered to continuously improve the approach and to ensure full integration of implemented priorities and projects. Ensuring that priority projects are launched and fully integrated with strategy empowers the board of STEMFlorida, Inc. with a clear line of vision for accountability and ownership, promotes efficient fact-finding, and invites teamwork and informed, positive interventions when necessary. It also encourages successes, proven by leaps in strategic goals, to be raised as best practices and potentially replicated in the approach to emerging priority projects.

VIII. Resources and Collaborative Partners.

Resources for STEMFlorida, Inc. are represented by a range of functions including but not limited to legal, finance, accounting, and compliance systems; information technology; integrated communications; policy management and development; research; contract management, budget, human resources/staff; and vendors and consultants. It is the desire of the board that STEMFlorida, Inc. resources be in place and routinely inventoried to ensure full utilization in support of the strategic goals and objectives, and related project operating plans. The board believes that resources must be staged and budgeted with efficiency, including knowledge of and integration across operating plans. The board further believes that candor regarding financial and resource limitations and barriers promotes reform and intervention when needed, and invites a culture of open innovation. The top-line view of resources encourages inventory and consideration of efficiencies throughout development of project operating plans and staging or deployment of resources.

Collaborative partners are shown through a top-line view to promote teamwork and efficiencies across the stakeholders of Florida's STEM movement and key agencies and partners. It is the intent of the board that all collaborative partners are established with relationships guided by Memoranda of Understanding (MOUs). Collaborative partners' effective engagement is anticipated to be key to the successful implementation of project operating plans. The relationships must encourage clear, bidirectional lines of accountability and ownership and ensure understanding of expectations and efficiencies. The board believes that ongoing management of the collaborative partners inventory, in context of resources inventory, promotes intervention when needed, and invites a culture of innovation and collaborative efficiency.



STEM*florida*, Inc.
Strategic Plan: *STEM Leadership for Florida*

Appendix A.

Florida's STEM Glossary | June 2011

GLOSSARY.

Apprenticeship. A registered apprenticeship is an “earn while you learn” training program that is apprenticeable by the U. S. Department of Labor and each respective State’s Bureau of Apprenticeship & Training. It is a combination of on-the-job training and formal classroom instruction in which paid employees learn the practical and theoretical aspects of a highly skilled occupation. Working under the direction of skilled workers (journey-workers), an apprenticeship term is anywhere from one to six years, depending on the knowledge and skills required.

There are over 800 occupations recognized by the Federal Bureau of Apprenticeship & Training. They include: electrician, plumber, telecommunications technician, carpenter, logistics engineer, automobile mechanic, and licensed practical nurse.

The average wage of a certified journey-worker, graduate of a registered apprenticeship program, is comparable to that of a worker who has a bachelor’s degree.

Balanced Scorecard. This term is used in two ways throughout Florida’s talent delivery system. The term is used in association with the work of STEM**florida** Collaborative Partner Workforce Florida’s Performance Council and the development of “Balanced Scorecard 2.0,” an approach to tracking and managing to common federal measures.

Balanced scorecard is also generally noted as a strategic planning and management system that is used extensively in business and industry, government, and nonprofit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals. It was originated by Drs. Robert Kaplan (Harvard Business School) and David Norton as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more ‘balanced’ view of organizational performance.

Beakers. The name given to the prototype graphic view of the five key categories identified for gauging the proficiency of Florida’s STEM talent delivery system and general STEM climate relative to STEM-enabled employers and stakeholders.

CPALMS. CPALMS is a state wide infrastructure project to build information systems and tools to support the implementation of the Next Generation Sunshine State Standards (NGSSS). The project is led by the Florida Center for Research in Science, Technology, Engineering and Mathematics (FCR-STEM) at Florida State University (FSU). CPALMS is collaboration between K-12 teachers, researchers, the Florida Department of Education, universities, district curriculum specialists, and many others.

In order to effectively support the NGSSS, CPALMS is redesigning several key information systems and creating a framework for others to follow and integrate. The three main information systems are: Standards Information System; Course Information System; and Standards-Based Resource Information System.

The Standards Information System is the core of all components providing direct access and connection to the standards. By integrating these systems, CPALMS will make the standards more practical by connecting them to courses. Since teachers teach courses and student register in courses, it is important that the course descriptions are aligned with the standards. Additionally, it will make standards more achievable by providing high quality resources that are specifically aligned or created for the NGSSS. It will provide standards-based tools to create high quality courses, instructional resources, planning and professional development. It will also serve as “one source” for all standards-based information by utilizing the latest



technologies such as Web 2.0, web services and Application Programming Interfaces (APIs). This infrastructure will enable creating new standards-based tools and applications without the need to replicate the information systems within CPALMS. More information is available at www.CPALMS.org.

Career Academies. In Florida, Career Academies are established by s. 1003.493, Florida Statutes, as research-based programs charged with integrating “a rigorous academic curriculum with an industry-specific curriculum aligned directly to priority workforce needs established by the regional workforce board.” Students completing Career Academy programs receive a standard Florida high school diploma, industry certification at the highest available level, and may also gain opportunities to earn postsecondary credit. Goals of a Career Academy are mandated to include increased student achievement and graduation rates through integrated academic and career curricula; preparation of graduation high school students to make appropriate choices pertaining to work and education; career preparation through academic rigor and industry certification; relevant coursework to raise student aspiration and academic commitment.

Career Academies are also mandated by Florida Statute to support the state’s economy through attending to industry needs for skilled high-demand-occupation workers.

Collaborative Partners. STEMflorida’s Collaborative Partners are not just an efficiency, but are essential to implementation of the key strategic Projects outlined in the strategic plan, *STEM Leadership for Florida*. Collaborative Partners of the STEMflorida enterprise are essential for success. Roles of Collaborative Partners are clearly defined by Memorandum of Understanding (MOUs) between STEMflorida and the Collaborative Partner. Collaborative Partners may be statewide agencies or organizations, regional groups or collaboratives, industry/target industry cluster associations, other not-for-profits, philanthropic organizations, localized program offices, or other key organizations or agencies who provide a service or range of services, or with whom mutual services are exchanged or shared. Collaborative Partner MOUs delineate relationships, expectations, limitations, and working protocol between the Collaborative Partner and the STEMflorida enterprise.

Creating the Strategy for Today’s Needs and Tomorrow’s Talent. The title of Workforce Florida’s five-year strategic plan, and also the working title of the process through which the Workforce Florida Board of Directors and its Strategy Council developed a five-year strategic plan for workforce development in Florida. STEMflorida was a key Strategic Project noted in this plan. The title considers the urgency faced by Florida’s businesses, individuals, and families amid a record-setting global economic crisis and the responsiveness demanded of Workforce Florida immediately. It also considers the need to ensure a long term perspective on how workforce development supports Florida’s ability to grow value, economic prosperity, and diversification for the businesses, residents, and families who call the state “home.” The plan was identified in 2010 by the U.S. Department of Labor as a national best practice.

Customer Satisfaction. STEMflorida refers to the end-users of STEM talent as “the customer,” and relies upon integration of relevant customer satisfaction data and information to ensure Projects are operationalized in a manner that is demand-driven and ultimately so that STEM talent is better prepared for the STEM-enabled workplace, whether it is following post-secondary certification or advanced post-graduate work. STEMflorida approached development of STEM Leadership for Florida with mindfulness of the need to ensure data-driven solutions are in fact provided with the tightest possible feedback loop between the supply end (Florida’s *Talent Supply Chain Team*/talent delivery system) and the demand end (STEM-enabled industry/employers).



Dashboard. In the context of STEMflorida’s three-year Strategic Plan, *STEM Leadership for Florida*, the Dashboard is encompassed in the Operating Plan for Project H. The STEMflorida Enterprise Dashboard is a strategy implementation tool that aligns with the Strategic Plan and promotes informed decisions, and continuous improvements by gauging progress to objective in the context of progress to strategic goal. The Dashboard provides at-a-glance display of project status so that the STEMflorida Board can intervene in lagging objectives and heighten visibility for emerging successes and best practices.

Demand-Driven. In workforce systems, demand-driven represents the dominant measurer, influencer and driver (talent requirements and outlooks of employer businesses) of the policies, behaviors, products and programs of service providers in the talent supply chain. Demand-Driven requires strength in business intelligence, communications and occupational and skills data. It customarily requires performance and customer satisfaction indexing to align programs with employer needs. The approach is used because alignment of programs and talent to business needs improves Florida’s talent pipeline and Floridians’ opportunities to find employment, build careers, establish wealth and prepare for changing markets. Demand-Driven is associated with the related term “demand-side.”

Employ Florida Banner Centers. With the first center designated in 2006, Employ Florida Banner Centers are charged with becoming a statewide, go-to resource for cutting-edge training for entry-level and experienced workers who need to upgrade their skills in high-value sectors such as biotechnology, homeland security and defense, manufacturing, energy, alternative energy, logistics and distribution, aviation/aerospace, construction and agriscience. Each Banner Center is led by a Florida community college, university or industry organization, which serves as the home base.

Employ Florida Banner Centers partner with industry in targeted sectors to identify training needs and, among other things, create new curricula. A key objective is to create timely and relevant training that can be shared across multiple educational institutions for access by businesses in other areas of the state, thus reducing duplication. In other words, you can create it in one place and use it in another without another institution having to start from the beginning to address identical industry training needs in its community. Throughout the strategic planning process of STEMflorida during Phase II of its project work as an initiative of Workforce Florida, Inc., members of the STEMflorida Business Steering Council (BSC) worked through Employ Florida Banner Center channels to ensure industry feedback and linkage between emerging STEMflorida enterprise Strategic Goals and Projects, and STEM-enabled employer demands. Members of this working group team of the BSC were known as the STEMflorida Industry Ambassador.

In October 2008, the International Economic Development Council (IEDC) presented Workforce Florida with an Excellence Award for partnership with educational institutions for the Employ Florida Banner Centers initiative.

Employ Florida Network of Resources and Employ Florida Marketplace. Employ Florida, accessed at www.EmployFlorida.com, links all of Florida’s state and local workforce services and resources. The partners are Workforce Florida, the state policy and oversight board, and the Agency for Workforce Innovation, the state agency which administers workforce funds. At the local level, there are 24 regional workforce boards that administer nearly 100 “One-Stop Centers.” The Employ Florida toll free number is 1-866-FLA-2345.

As *STEM Leadership for Florida* was developed, STEMflorida worked to integrate tracking and announcement components of STEM-enabled internships and externships in Florida, with additional linkage to the CPALMS platform warehoused at Florida State University’s Learning Systems Institute. Project G. requires the STEMflorida enterprise to continue this work to ensure that STEM opportunities are posted onto the Employ Florida Marketplace and data related to STEM opportunities can be tracked with indicators fed to *The Best STEM Scorecard*.

Enterprise Florida, Inc. As a public-private partnership serving as a primary organization for Florida devoted to state-wide economic development, Enterprise Florida, Inc. is missioned to diversify Florida's economy and create better paying jobs for its citizens by supporting, attracting and helping to create businesses in innovative, high-growth industries. In collaboration with a statewide network of regional and local economic development organizations, Enterprise Florida works to bolster the state's business climate and to ensure the global competitiveness of Florida.

Enterprise Goals System. A unique strategic planning system developed by Fairfield Index, Inc. to help for-profit companies, communities, and not-for-profits and collaboratives become more competitive. The system has been implemented by Fortune 500s, regional collaboratives, regional and statewide workforce boards, economic development organizations, public private partnerships, and business-driven not-for-profits. The Enterprise Goals Model is designed based on a Framework built during this process. The planning system is run through a board-driven process to identify the Business of the Enterprise in context of environmental factors (including over-arching global or state policy plans or other factors). Strategic Goals are identified, and linked to Achievements which will be gauged through a metric-driven dashboard and monitored for success or areas of concern for intervention by the Board. Projects are designed based on the Strategic Goals and Objectives, and put in motion through the development and implementation of Operating Plans. Operating Plans are staff- and resource-driven, and inform the metrics fed into the enterprise dashboard. Also within the Framework, the Resources needed to implement the Projects are identified. As Operating Plans are written for each key Project, Collaborative Partner relationships are identified based on needs and mutual reliance and MOUs may be written to solidify these partnerships and clearly define terms of engagement. *Creating the Strategy for Today's Needs and Tomorrow's Talent*, the U.S. DOL national best practice, was developed through the Enterprise Goals System.

Entrepreneurship. Entrepreneurship is a way of thinking, a way of feeling, and a way of acting. Entrepreneurs see opportunities and seek solutions. Entrepreneurs are passionate in making what is possible a reality. Entrepreneurs grasp the impacts of a business or an innovation, not just the parts; are focused in their commitment and immediate in their actions. (Center for Entrepreneurship, Crummer Graduate School of Business at Rollins College; in collaboration with Central Florida Partnership. "Think Tank Reunion Outcomes: The Best Regional Entrepreneurship System in the Americas - Defining the term Entrepreneur: Exploring Consensus, Taking Action." August 2008.)

Entrepreneurial activity is often strong around emerging and existing STEM-enabled employers.

Experiential Learning. Opportunities for students, workers, and learners to gain understanding and insights through hands-on, direct experiences. Learning through doing, or through reflecting upon the actions of doing a task, practicing a skill, or applying theoretical knowledge and principles to real-world problem solving.



Externship. A training or professional education experience exercised in a hands-on environment within a STEM-enabled employer. STEMflorida identified the need to encourage and track externship opportunities for STEM educators with STEM-enabled employers. This is considered an additional step in assuring that the feedback loop between STEM education/talent development and STEM-enabled industry is tightened. STEM educators can garner real-world experiences and applications for theoretical principles and lessons and carry these rich experiences back to their classrooms to impact numerous students. Educators who have taken part in a STEM externship opportunity can post lesson plans with Sunshine State Standards linkage, multimedia, and other insights from these experiences onto the CPALMS web site at www.CPALMS.org, allowing for access by myriad other educators who may not have the ability to gain these hands-on experiences with real STEM-enabled employers.

The Florida Scorecard. An economic barometer released by the Florida Chamber Foundation in the 4th Quarter of 2009 to provide “real time” tracking and assessment of the state’s economy using data from a variety of sources, including the Agency for Workforce Innovation, the U.S. Census Bureau, and the University of Florida Bureau of Economic and Demographic Research.

The scorecard uses dozens of metrics including graduation rates, venture capital investments, corporate income taxation levels, health care costs and state-to-state comparisons to assess the Sunshine State. The six categories measured through data aggregation by The Florida Scorecard are Talent Supply and Education; Innovation and Economic Development; Infrastructure and Growth Leadership; Business Climate and Competitiveness; Civic and Governance Systems; and Quality of Life and Quality Places. More information can be found at www.TheFloridaScorecard.com.

Framework for Planning. In the Enterprise Goals System, the structural Framework in which a board creates the design of its enterprise, by identifying and populating the areas of Strategic Goals, Achievements, Projects, Resources, and Collaborative Partners.

Graphic Model and Indicators. The first view of how Florida is performing with regards to STEM and STEM talent development in each of the five key categories identified by the STEMflorida Business Steering Council throughout its Phase II of work and while developing the strategic plan, *Engineering STEM Leadership for Florida*. The model, later referred to as *The Best STEM Scorecard*, provides view of the categories of Talent, Education, Climate, Collaboration, and Research. Represented initially as a set of five beakers, the categories’ success or status are informed by a series of STEM-relevant indicators which range from state-level labor market statistics to international competitiveness and measurements of growth in employer/demand-side participation in STEM.

Green Jobs and Green Industries. A green job increases the conservation and sustainability of natural resources for the benefit of Floridians. This includes jobs that reduce energy usage or lower carbon emissions, and protect Florida’s natural resources. Green jobs should provide worker-friendly conditions, pay a living wage and offer opportunities for continued skill training and career growth.

Hub and Spoke. An approach to connecting to regional and industry/associational STEM activities, priorities, and programs to and across Florida’s regions, communities, industries, and industry associations. The Hub and Spoke approach helped inform site navigation and development of the STEMflorida enterprise’s web portal.



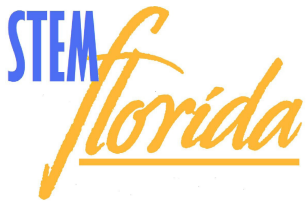
Industry Ambassadors. The Phase II group of STEMflorida Business Steering Council members who undertook unique additional roles by volunteering to execute personal, C-level outreach to Florida's STEM-enabled employers. The Industry Ambassadors ensured engaged of Florida's STEM-enabled employers and collected feedback on talent and growth needs, conveying these new insights back into the strategic planning process for the STEMflorida enterprise. They utilized additional input and recommended pathways provided by Employ Florida Banner Center directors and Industry Advisory Council chairs.

Infrastructure Innovators. In Florida, Infrastructure Innovators include agencies and enterprises concerned with the design, deployment, maintenance, preservation and transformation of water, transportation, community, energy, telecommunications and natural systems. Infrastructure Innovators are critical to the support of Florida's economy, and other industry sectors and clusters.

Internship. An opportunity to gain hands-on, applied learning experience in a real-world setting with a STEM-enabled employer. Internship opportunities allow students, workers, and learners to apply theoretical and academic lessons and principles to solve actual problems. They also provide a view of working environment and job characteristics. STEMflorida prioritized STEM internships through Project G, noting STEM internships as an important area to encourage and track activity in because of their relation to the talent/education and employer/industry feedback loop.

Occupational Codes. Occupational Codes are used to classify workers into categories of occupation. This enables the collection, calculation, trending and dissemination of data and information in recognizable and standard terms.

Portal. The global entry point for web-based information on Florida's STEM movement, the STEMflorida enterprise, relevant data to guide decision making of parents, students, site selection consultants, regional teams, economic development collaboratives, labor market analysts, media, educators, and philanthropists looking to move the needle on STEM and STEM talent issues with informed decisions. During the strategic planning process, the STEMflorida Business Steering Council re-imagined the web portal used during initial Phase I due diligence into an easily navigable, streamlined, connected online tool that clearly conveys pathways to resources, data, tools, and industry- or region-driven successes. The new portal is interactive and provides channels for connectivity to social media and forum conversation. It is also the portal to regional teams' throughout Florida and information on their unique STEM successes and actions to bolster talent development in this important arena. The Best STEM Scorecard is warehoused on the portal to provide a top-line view of the pulse of Florida's STEM movement.



Regional Models. Throughout STEM**florida**'s strategic planning between 2010 and 2011, numerous regional economic development organizations, chambers of commerce, and partnerships approached the Business Steering Council asking for how regional teamwork around STEM could align to the best practice at the state level. STEM**florida** quickly acknowledged that, in certain cases, some regions are actually ahead of state-level resources and action on STEM and learning and alignment must not remain static or one-way. *STEM Leadership for Florida* encourages the continued development of regional plans in mature or significantly collaborative markets. Much of the outreach during the planning period was assisted greatly through partnership with the Florida Economic Development Council (FEDC) and also aligned to the eight (8) economic development regions shared by both FEDC and Enterprise Florida, Inc. The STEM**florida** portal has built out capacity to link to and leverage successes of these regional teams excelling in STEM, in part to market these STEM successes to the globe and also to serve as models for learning by other Florida communities and regions. STEM**florida** operates with transparency and candor and encourages sharing of data, information, and priorities so that learning can occur between and among regions, state-level partners, and national or global stakeholders.

Research-based Internship. An internship opportunity with a special focus on hands-on STEM research, usually based at a university, laboratory, institute, or employer lab.

Resources. A term from the Enterprise Goals system, denoting the components necessary to complete the tasks inherent in the strategic Projects. Resources may refer to internal staff needs (full time employees), or contracted assistance or vendors.

Retention. Students engaged in career pathway learning models which often accompany STEM-enabled initiatives and educational programs, including career academies or certification pathways, are more likely to stay in school and achieve higher grades. According to the February 2010 report, "Career Academies: A Proven Strategy to Prepare High School Students for College and Careers" (Stern, Dayton, and Raby), learners participating in this type of experiential learning are also more likely to graduate high school and to remain in college longer.

Roadmap to Florida's Future. The economic strategy for the state of Florida is developed and updated by Enterprise Florida, Inc., pursuant to s. 288.901(5) Florida Statutes. The *Roadmap to Florida's Future* is a five-year statewide strategic plan for economic development. Created through broad, grass roots outreach and expert input, the Roadmap identifies key priorities and specific action recommendations to diversify Florida's economy for global competitiveness. Workforce Florida's strategic plan, written during a period overlapping the development of Florida's *Roadmap*, integrates the Roadmap's core concept of target industry clusters.



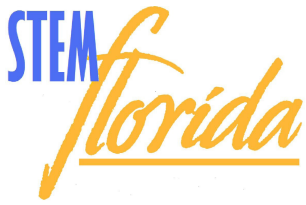
Rural Areas of Critical Economic Concern (RACECs). Three regions of Florida, each comprised of rural communities, have been designated by the Governor’s Office of Tourism, Trade and Economic Development as Rural Areas of Critical Economic Concern (RACECs). These regions have faced adverse impact from exceptional economic or natural events. RACEC designation of these communities permits them provisions for economic development initiatives, including waived requirements and criteria. The RACEC communities are also eligible for the provision of funding for economic research, marketing and site selection, especially to catalyze economic prosperity and designate a target Catalyst site within each region.

Science, Technology, Engineering, and Math (STEM). Competency in STEM education and training is considered critical to growing Florida’s advantage in the global competition for world-class talent. In June of 2009, Workforce Florida, in partnership with Enterprise Florida, announced the creation of the Florida STEM Council to strengthen the STEM skills of Florida’s students as a way to address the increasing demand for jobs requiring strong foundations in these areas. Industries identified as targets for the STEM Council include life sciences, aerospace, energy, manufacturing, information technology and homeland security and defense, as well as others. Made possible through a grant from Workforce Florida, Inc., STEM*florida* launched a business-led initiative guided by Workforce Florida’s Business Steering Council following preliminary discussion of elevating STEM as a key priority with partners including the Florida Department of Education, Florida Chamber of Commerce, Florida Council of 100, and others. STEM*florida* functioned as a Workforce Florida Initiative through two Phases: Phase I focused on academic input and business roundtable discussions throughout Florida; and Phase II focused on ensuring a demand-driven solution to ensuring STEM leadership for Florida through development of a strategic plan and realization of a scorecard, regional and industry engagement, and continued tracking of the “pulse” of STEM in Florida. In summer of 2011, the STEM*florida* enterprise was realized as Florida’s organization for STEM leadership through the early work of collaborative partners, the due diligence of Phase I, and the action of the STEM*florida* Business Steering Council in Phase II.

STEM-enabled. An opportunity, employer, program, activity, or organization/group which utilizes knowledge, skills, and/or competencies in Science, Technology, Engineering, and Math or relies upon such competencies to meet demands or reach goals. STEM-enabled may also refer to a community or collaborative which has demonstrated STEM proficiency through clear, measurable outcomes.

STEM Education. An interdisciplinary approach to learning which removes the traditional barriers separating the four disciplines of science, technology, engineering and mathematics, and integrates them into real world, rigorous and relevant learning experiences for students.

STEM Industry. A strategic priority of the STEM*florida* enterprise, outlined in Project E, to provide identify STEM Industries in Florida through a clear methodology developed with input from Collaborative Partners and linked to economic development and job growth/retention priorities relative to STEM.



STEM Jobs Index. A strategic priority of the STEMflorida enterprise outlined in Project E to provide mapping and assessment of Florida’s STEM-enabled employers and job creators, and ultimately link this information to *The Best STEM Scorecard* and other state labor market statistics information and data.

STEM Job. A strategic priority of the STEMflorida enterprise, outlined in Project E, to provide identify STEM Industries in Florida through a clear methodology developed with input from Collaborative Partners and linked to economic development and job growth/retention priorities relative to STEM.

STEM Proficiency. In an early Phase II breakthrough of the STEMflorida Business Steering Council, the term “STEM Proficiency” was adopted to replace terms in strategic planning and communication of STEM priorities and values which denote mere competency or satisfaction of basic requirements. Florida and our talent must not only meet basic requirements to compete in STEM, but must be proficient.

Strategic Goals. An Enterprise Goals System term denoting the key goals around which the board of an enterprise identifies its vision and from which it builds pathways for action of the enterprise. During creation of the plan, *STEM Leadership for Florida*, the STEMflorida Business Steering Council identified four key Strategic Goals: Credible, Regionally Embraced, Globally Relevant Model and Messaging; Clear and Meaningful Pathways for Business Engagement and Learning; Responsive, Productive Relationship with Florida’s Talent Supply Chain Team; and Best Evidence to Support the Demand-driven Solution.

Talent Supply Chain. Florida’s Talent Supply Chain is a system of resources and infrastructure that prepares people, on a lifelong basis, to advance the needs of enterprises of all scales, sizes and sectors. Like other supply chains, excellence is achieved through customer satisfaction, on-time delivery, reliability, foresight and seamless coordination and process improvement among and between all participants in the chain. In Florida, people are participant-owners in the chain, by exerting their own transformative abilities to learn, apply knowledge and create wealth.

Talent Supply Chain Team. A cross-cutting team of collaborative partners guided by the definition of Talent Supply Chain Team adopted through the Workforce Florida Strategic Plan. The Talent Supply Chain Team is both a Collaborative Partner of STEMflorida and also a Strategic Goal of STEMflorida Collaborative Partner, Workforce Florida, and is noted as “Aligned, Responsive and Jointly Engaged Talent Supply Chain Team.” A top Achievement set forth for Workforce Florida through this Strategic Goal is to convene and support this team around Florida’s Shared Scorecard with a shared vision.

Target Industry Clusters. In Florida, Target Industry Clusters include the dynamics and disciplines of entrepreneurship, manufacturing, supply chain management, vendor access, productivity, new ventures and research and development. Florida law specifies that Enterprise Florida, Inc. defines these Target Industry Clusters. The state’s reputation as a magnet for and provider of outstanding customer service for target clusters (and their resident industries) rests on a commitment to cluster management and knowledge about the complex up and down-stream relationships customer targets require to grow and hire.



The Best STEM Scorecard. Initially drafted in tandem with creation of STEM Leadership for Florida, *The Best STEM Scorecard* was raised as a key strategic Project for the STEM**florida** enterprise. A STEM scorecard for Florida must be the best possible solution for a one-stop shop for data relevant to users including: philanthropists looking to make informed investment decisions; site selection consultants for STEM-enabled employers interested in relocation or expansion to STEM-proficient sites and communities; regional teams seeking to gauge success of uniquely regional actions and priorities; leaders and policy makers seeking information on STEM issues, initiatives, and successes; parents and students gauging educational and workforce/employment opportunities in STEM fields; leaders in STEM education and talent development interested in working and teaching where success in STEM is an important, collaborative priority.

Work-based Learning. An instructional strategy that supports the philosophy that many students learn more effectively within a “real world” context—that is, within a “structured system of work-based and school-based learning” that involves schools working with employers within the local community to provide a career/employment context for the students’ academic and career and technical coursework. Examples of work-based learning programs include but are not limited to the following—“cooperative education, directed study, on-the-job training, internship, health science clinicals, pre-apprenticeships and other programs in which students may receive school credit.”

Workforce Florida, inc. Created in 2000, Workforce Florida, Inc. serves as the principal workforce policy organization for the state, and is a catalyst for creating and nurturing world-class talent. Its mission is to design and implement strategies that help Floridians enter, remain in, and advance in the workplace, becoming more highly skilled and successful, benefiting these Floridians, Florida businesses, and the entire state, and to assist in developing the state’s business climate. Workforce Florida is governed by a 47-member, business-led Board of Directors, largely appointed by Governor Rick Scott and former Governor Charlie Crist, with the House Speaker and Senate President each appointing two of their chambers’ members to serve on the board. The Board, which seeks to design strategies to develop Florida’s world-class talent and respond to workforce demands and challenges, both today and on the horizon, is vice-chaired by Mary Lou Brunell, Director of the Florida Center for Nursing. As required by federal and state law, the Board of Directors must comprise representation from a majority of private-sector business. This ensures that business influences workforce policy and investment to drive employment, training and economic development. It is important to ensure that businesses, as ultimate customers of the workforce system, are integral participants in developing and implementing policies and programs of that system, and that the workforce system is designed with the needs of employers, as well as employees, in mind.

The Agency for Workforce Innovation (AWI) is Workforce Florida’s primary state-level workforce partner. AWI is responsible for implementing the policy developed by Workforce Florida, administering federal and state funds and providing technical assistance to 24 regional workforce boards, which primarily are responsible for delivering services to job seekers and businesses. Other state agencies serving on the business-led Workforce Florida Board of Directors are: the Department of Education, the Department of Children and Families, the Department of Elder Affairs, the Agency for Persons with Disabilities, the Department of Community Affairs and the Department of Juvenile Justice. Additionally, Workforce Florida works closely with other vital statewide organizations such as Enterprise Florida, Space Florida, the Florida Chamber of Commerce and the Florida Economic Development Council, among many others.



STEM*Florida*, Inc.
Strategic Plan: *STEM Leadership for Florida*

Appendix B.

State of STEM Report | June 2011

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Workforce; professional certifications; retention and retraining; industry/cluster linkage.

Education | Pages 21-40

Graduation and retention; majors; degrees; PISA or other testing; programs; industry/cluster linkage.

Climate & Collaboration | Pages 41-53

Climate. Global competitiveness; employers and stakeholders in STEM talent development; policy and advocacy efforts. **Collaboration.** Demand-side engagement; employers; educators; stakeholders; development/retention; internships/externships.

Research | Pages 54-57

Research/development; patents; technology transfer; innovation.

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EXECUTIVE SUMMARY

The lure of Florida's climate has attracted people to the state for decades. Any Floridian will tell you that Florida is a great place to start a business, raise a family, or retire; but recently, Florida has fallen behind. When a high level CEO is determining a site location, Florida has appeared at the top of their list because of our workforce and climate but these days, people are beginning to question Florida's abilities. Are there enough high-skilled workers in Florida? Does Florida have a highly-educated workforce when compared to the rest of the country? Where are the Engineers? Scientists? Mathematicians? And what about Florida's Technology and Computer Information Specialists? Some may say that Floridians are lagging in the STEM fields—but this is beginning to change.

STEM*florida*, Inc. in collaboration with education, policy, philanthropy, business/industry leaders has put a stake in the ground. STEM—Science, Technology, Engineering, and Math—will become a part of our ecosystem, our educational system, and our workforce system. Floridians have stood up and taken notice of the importance of life-long learning—the importance of the STEM movement. Having a highly-educated workforce will create a return on investment for Florida's future and secure our place in this shaky economy. Coming out of a recession, Florida is beginning to shift its focus on the creation of jobs for the citizens of the state; but in order to fill the much needed positions, Floridians need to be prepared to tackle this different turf. It is no longer enough to have a high school diploma. These days, one needs to have a college education, certifications, internships—all components of life-long learning. Business start-ups and business relocations need to see that Florida can offer more than sunshine and warm weather—we need to show we have an educated workforce.

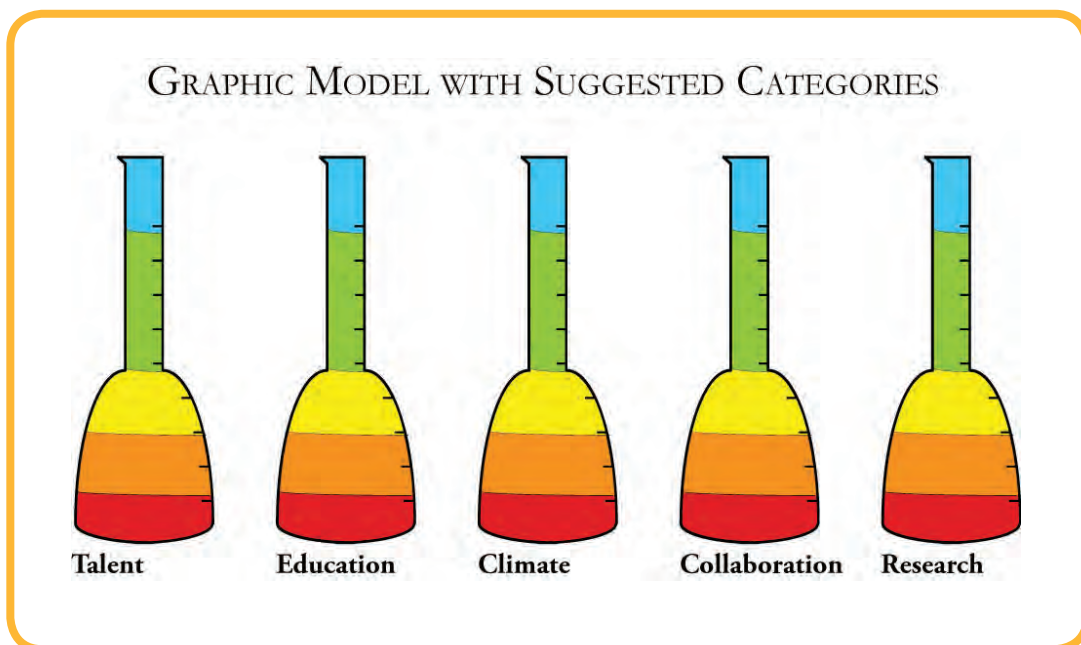
In Phase II of STEM*florida*, the Business Steering Council created the formation of a Scorecard Team. Chaired by Dr. Carrie Blanchard of the Florida Chamber Foundation, the Scorecard Team created a list of indicators in order to measure Florida's health in STEM. These results will be discussed later, but what is important to note now is that all members of the Scorecard Team saw the advantages and disadvantages of Florida and quickly put their heads down with a plan of how to make the necessary changes to engage all citizens of Florida in the STEM movement. In these next few pages, we will discuss the data that was gathered and explain what it means. What you will find in the data is the importance of shifting gears towards post-secondary and graduate level as Florida seems to be proficient in the secondary level of education. You will see that the demands for STEM occupations are growing and Florida is catching up to the rest of the country, but still falls short. Based on the raw data, you will see that the U.S. is lagging in STEM when compared globally, and within that, Florida is lagging within the U.S. There is an abundance of data in the indicators and what we need to do now is connect the dots.

SCORECARD & GRAPHIC MODEL

The Graphic Model will serve as a first view for employers, site selectors, sought-after top-performing students, and many other STEM stakeholders and parties interested in Florida’s competitive values. It must represent success and status clearly and simply, using the language of business. The indicators and any informing metrics must also represent the range of stakeholders in Florida’s STEM movement, and must clearly speak to the demand-driven effort of STEMflorida.

Fairfield Index has approached the required measures as a bare minimum, with the key assumption that all concepts for tracking, gauging, and communicating success must be tested through a broad range of leaders and must be filtered to ensure that this important component is both credible to and reflective of the voice of the employer. The Indicator Scan Interview has provided leaders with a way to share input, and has also served as a preliminary tool for additional outreach to regional and state economic development partners, industry leaders, and researchers within and beyond Florida. In many cases, the Scan has provided opportunities for initial sharing and communication about STEMflorida and its role in Florida’s STEM movement.

In addition to valuable opportunities for sharing and introduction with key leaders, the Scan has provided insights into how success in STEM proficiency can be measured and communicated. Potential indicators have surfaced around two core talent development categories: Talent and Education. Additional categories have appeared less prominently but are all supported by suggested indicators which cross-walk the first two core categories of STEM talent proficiency. They also communicate and measure the strength of industry and economic development linkage and general business climate for STEM-enabled enterprises. These additional categories include Climate (STEM Business Climate), Collaboration (Demand-side Engagement), and Research.



TALENT

STEM Disciplines Occupational Codes

Using O*NET’s STEM occupational codes, this chart, prepared by the Florida Agency for Workforce Innovation, Labor Market Statistics Center, shows each STEM occupation which appears on O*NET using Standard Occupation Codes, used by the US Dept of Labor. To the very right of the chart the last column, denotes the educational background needed in order to have a career in that selected occupation.

STEM Disciplines Occupational Codes			
Code	Occupation	STEM Disciplines	Education Code
13201101	Accountants	Computer Science	5 = Bachelor’s Degree
152011	Actuaries	Mathematics	5 = Bachelor’s Degree
173021	Aerospace Engineering and Operations Technicians	Engineering	4 = Associate’s Degree
172011	Aerospace Engineers	Engineering	5 = Bachelor’s Degree
172021	Agricultural Engineers	Engineering, Life Sciences	5 = Bachelor’s Degree
251041	Agricultural Sciences Teachers, Postsecondary	Life Sciences	5 = Bachelor’s Degree
19401101	Agricultural Technicians	Life Sciences	4 = Associate’s Degree
493011	Aircraft Mechanics and Service Technicians	Engineering	3 = Postsecondary Adult Vocational Training
452021	Animal Breeders	Life Sciences	3 = Postsecondary Adult Vocational Training
191011	Animal Scientists	Life Sciences	5 = Bachelor’s Degree
171011	Architects, Except Landscape and Naval	Engineering	6 = Master’s Degree or Higher
17301101	Architectural Drafters	Engineering	3 = Postsecondary Adult Vocational Training
251031	Architecture Teachers, Postsecondary	Engineering	6 = Master’s Degree or Higher
192011	Astronomers	Physics/Astronomy	6 = Master’s Degree or Higher
192021	Atmospheric and Space Scientists	Physics/Astronomy	5 = Bachelor’s Degree
251051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	Geosciences, Mathematics, Physics/Astronomy	6 = Master’s Degree or Higher
13201102	Auditors	Computer Science	5 = Bachelor’s Degree
17302701	Automotive Engineering Technicians	Engineering	4 = Associate’s Degree
49302301	Automotive Master Mechanics	Engineering	3 = Postsecondary Adult Vocational Training
49302302	Automotive Specialty Technicians	Engineering	3 = Postsecondary Adult Vocational Training
492091	Avionics Technicians	Engineering	3 = Postsecondary Adult Vocational Training

STEM Disciplines Occupational Codes			
Code	Occupation	STEM Disciplines	Education Code
17219901	Biochemical Engineers	Chemistry	5 = Bachelor's Degree
191021	Biochemists and Biophysicists	Chemistry, Life Sciences, Physics/ Astronomy	6 = Master's Degree or Higher
11305103	Biofuels Production Managers	Life Sciences	4 = Associate's Degree
11904101	Biofuels/Biodiesel Technology and Product Development Managers	Environmental Science, Life Sciences	5 = Bachelor's Degree
43911101	Bioinformatics Technicians	Life Sciences	3 = Postsecondary Adult Vocational Training
251042	Biological Science Teachers, Postsecondary	Life Sciences	6 = Master's Degree or Higher
194021	Biological Technicians	Life Sciences	4 = Associate's Degree
19102001	Biologists	Life Sciences	NA
11305104	Biomass Production Managers	Life Sciences	4 = Associate's Degree
172031	Biomedical Engineers	Engineering	5 = Bachelor's Degree
15204101	Biostatisticians	Life Sciences	5 = Bachelor's Degree
11919911	Brownfield Redevelopment Specialists and Site Managers	Environmental Science	4 = Associate's Degree
1510991	Business Intelligence Analysts	Computer Science	3 = Postsecondary Adult Vocational Training
251011	Business Teachers, Postsecondary	Computer Science, Mathematics	5 = Bachelor's Degree
172041	Chemical Engineers	Chemistry, Engineering	5 = Bachelor's Degree
519011	Chemical Equipment Operators and Tenders	Chemistry	2 = High School Diploma or GED
518091	Chemical Plant and System Operators	Chemistry	3 = Postsecondary Adult Vocational Training
194031	Chemical Technicians	Chemistry, Life Sciences	4 = Associate's Degree
251052	Chemistry Teachers, Postsecondary	Chemistry, Geosciences	6 = Master's Degree or Higher
192031	Chemists	Chemistry, Physics/ Astronomy	5 = Bachelor's Degree
17301102	Civil Drafters	Engineering	3 = Postsecondary Adult Vocational Training
173022	Civil Engineering Technicians	Engineering	4 = Associate's Degree



STEM Disciplines Occupational Codes			
Code	Occupation	STEM Disciplines	Education Code
172051	Civil Engineers	Engineering	5 = Bachelor's Degree
19204101	Climate Change Analysts	Environmental Science	5 = Bachelor's Degree
151011	Computer and Information Scientists, Research	Computer Science	6 = Master's Degree or Higher
113021	Computer and Information Systems Managers	Computer Science	5 = Bachelor's Degree
172061	Computer Hardware Engineers	Computer Science, Engineering	5 = Bachelor's Degree
151021	Computer Programmers	Computer Science	3 = Postsecondary Adult Vocational Training
251021	Computer Science Teachers, Postsecondary	Computer Science	5 = Bachelor's Degree
15107101	Computer Security Specialists	Computer Science	4 = Associate's Degree
151031	Computer Software Engineers, Applications	Computer Science, Engineering	4 = Associate's Degree
151032	Computer Software Engineers, Systems Software	Computer Science, Engineering	5 = Bachelor's Degree
151041	Computer Support Specialists	Computer Science	3 = Postsecondary Adult Vocational Training
151051	Computer Systems Analysts	Computer Science	4 = Associate's Degree
119021	Construction Managers	Engineering	4 = Associate's Degree
131051	Cost Estimators	Engineering	4 = Associate's Degree
11901102	Crop and Livestock Managers	Life Sciences	4 = Associate's Degree
151061	Database Administrators	Computer Science	4 = Associate's Degree
292051	Dietetic Technicians	Life Sciences	3 = Postsecondary Adult Vocational Training
291031	Dietitians and Nutritionists	Life Sciences	5 = Bachelor's Degree
17302303	Electrical Engineering Technicians	Computer Science, Engineering	4 = Associate's Degree
17302902	Electrical Engineering Technologists	Engineering	4 = Associate's Degree
172071	Electrical Engineers	Engineering	5 = Bachelor's Degree
17302903	Electromechanical Engineering Technologists	Engineering	4 = Associate's Degree
512023	Electromechanical Equipment Assemblers	Engineering	3 = Postsecondary Adult Vocational Training
17302301	Electronics Engineering Technicians	Computer Science, Engineering	4 = Associate's Degree
17302904	Electronics Engineering Technologists	Engineering	4 = Associate's Degree

STEM Disciplines Occupational Codes			
Code	Occupation	STEM Disciplines	Education Code
172072	Electronics Engineers, Except Computer	Engineering	5 = Bachelor's Degree
119041	Engineering Managers	Chemistry, Computer Science, Engineering, Geosciences, Life Sciences, Physics/ Astronomy	5 = Bachelor's Degree
251032	Engineering Teachers, Postsecondary	Chemistry, Computer Science, Engineering, Geosciences, Life Sciences, Physics/ Astronomy	6 = Master's Degree or Higher
13104101	Environmental Compliance Inspectors	Life Sciences	3 = Postsecondary Adult Vocational Training
173025	Environmental Engineering Technicians	Engineering, Environmental Science	4 = Associate's Degree
172081	Environmental Engineers	Engineering, Environmental Science	5 = Bachelor's Degree
19204102	Environmental Restoration Planners	Life Sciences	5 = Bachelor's Degree
194091	Environmental Science and Protection Technicians, Including Health	Environmental Science	3 = Postsecondary Adult Vocational Training
251053	Environmental Science Teachers, Postsecondary	Environmental Science	5 = Bachelor's Degree
192041	Environmental Scientists and Specialists, Including Health	Environmental Science	5 = Bachelor's Degree
191041	Epidemiologists	Life Sciences	6 = Master's Degree or Higher
454021	Fallers	Life Sciences	1 = Less than High School
259021	Farm and Home Management Advisors	Life Sciences	5 = Bachelor's Degree
119012	Farmers and Ranchers	Life Sciences	1 = Less than High School
13209901	Financial Quantitative Analysts	Computer Science	3 = Postsecondary Adult Vocational Training
17211102	Fire-Prevention and Protection Engineers	Engineering	5 = Bachelor's Degree
45101107	First-Line Supervisors/Managers of Agricultural Crop and Horticultural Workers	Life Sciences	4 = Associate's Degree



STEM Disciplines Occupational Codes			
Code	Occupation	STEM Disciplines	Education Code
45101108	First-Line Supervisors/Managers of Animal Husbandry and Animal Care Workers	Life Sciences	4 = Associate's Degree
45101106	First-Line Supervisors/Managers of Aquacultural Workers	Life Sciences	4 = Associate's Degree
333031	Fish and Game Wardens	Life Sciences	3 = Postsecondary Adult Vocational Training
453011	Fishers and Related Fishing Workers	Life Sciences	2 = High School Diploma or GED
513092	Food Batchmakers	Life Sciences	1 = Less than High School
19401102	Food Science Technicians	Life Sciences	4 = Associate's Degree
191012	Food Scientists and Technologists	Life Sciences	5 = Bachelor's Degree
194093	Forest and Conservation Technicians	Life Sciences	3 = Postsecondary Adult Vocational Training
454011	Forest and Conservation Workers	Engineering, Life Sciences	4 = Associate's Degree
191032	Foresters	Engineering, Life Sciences	5 = Bachelor's Degree
19102903	Geneticists	Life Sciences	5 = Bachelor's Degree
17102201	Geodetic Surveyors	Engineering	5 = Bachelor's Degree
192042	Geoscientists, Except Hydrologists and Geographers	Geosciences	5 = Bachelor's Degree
271024	Graphic Designers	Computer Science	4 = Associate's Degree
251071	Health Specialties Teachers, Postsecondary	Life Sciences, Physics/Astronomy	6 = Master's Degree or Higher
251192	Home Economics Teachers, Postsecondary	Life Sciences	5 = Bachelor's Degree
17211201	Human Factors Engineers and Ergonomists	Engineering	5 = Bachelor's Degree
192043	Hydrologists	Geosciences	5 = Bachelor's Degree
173026	Industrial Engineering Technicians	Engineering	3 = Postsecondary Adult Vocational Training
172112	Industrial Engineers	Engineering	5 = Bachelor's Degree
17211101	Industrial Safety and Health Engineers	Engineering	5 = Bachelor's Degree
454023	Log Graders and Scalers	Life Sciences	2 = High School Diploma or GED
454022	Logging Equipment Operators	Life Sciences	2 = High School Diploma or GED
17219904	Manufacturing Engineers	Engineering	5 = Bachelor's Degree
17212102	Marine Architects	Engineering	5 = Bachelor's Degree
17212101	Marine Engineers	Engineering	5 = Bachelor's Degree
172131	Materials Engineers	Engineering	5 = Bachelor's Degree

STEM Disciplines Occupational Codes			
Code	Occupation	STEM Disciplines	Education Code
192032	Materials Scientists	Engineering	5 = Bachelor's Degree
251022	Mathematical Science Teachers, Postsecondary	Mathematics	6 = Master's Degree or Higher
152091	Mathematical Technicians	Mathematics	4 = Associate's Degree
152021	Mathematicians	Mathematics	6 = Master's Degree or Higher
173027	Mechanical Engineering Technicians	Engineering	4 = Associate's Degree
17302907	Mechanical Engineering Technologists	Engineering	4 = Associate's Degree
172141	Mechanical Engineers	Engineering	5 = Bachelor's Degree
17219905	Mechatronics Engineers	Computer Science, Engineering	5 = Bachelor's Degree
191042	Medical Scientists, Except Epidemiologists	Life Sciences	6 = Master's Degree or Higher
191022	Microbiologists	Life Sciences	6 = Master's Degree or Higher
17219906	Microsystems Engineers	Engineering	5 = Bachelor's Degree
172151	Mining and Geological Engineers, Including Mining Safety Engineers	Engineering	5 = Bachelor's Degree
19102902	Molecular and Cellular Biologists	Life Sciences	5 = Bachelor's Degree
17219909	Nanosystems Engineers	Physics/Astronomy	5 = Bachelor's Degree
119121	Natural Sciences Managers	Chemistry, Computer Science, Engineering, Geosciences, Life Sciences, Mathematics, Physics/Astronomy	5 = Bachelor's Degree
151081	Network Systems and Data Communications Analysts	Computer Science	3 = Postsecondary Adult Vocational Training
172161	Nuclear Engineers	Engineering	5 = Bachelor's Degree
19405101	Nuclear Equipment Operation Technicians	Engineering, Physics/Astronomy	4 = Associate's Degree
292033	Nuclear Medicine Technologists	Physics/Astronomy	4 = Associate's Degree
19405102	Nuclear Monitoring Technicians	Engineering, Physics/Astronomy	4 = Associate's Degree
514012	Numerical Tool and Process Control Programmers	Computer Science	3 = Postsecondary Adult Vocational Training
11901101	Nursery and Greenhouse Managers	Life Sciences	4 = Associate's Degree

STEM Disciplines Occupational Codes			
Code	Occupation	STEM Disciplines	Education Code
152031	Operations Research Analysts	Computer Science, Mathematics	6 = Master's Degree or Higher
19103103	Park Naturalists	Life Sciences	5 = Bachelor's Degree
172171	Petroleum Engineers	Engineering	5 = Bachelor's Degree
17219907	Photonics Engineers	Physics/Astronomy	5 = Bachelor's Degree
192012	Physicists	Mathematics, Physics/Astronomy	6 = Master's Degree or Higher
251054	Physics Teachers, Postsecondary	Mathematics, Physics/Astronomy	6 = Master's Degree or Higher
19409902	Precision Agriculture Technicians	Life Sciences	4 = Associate's Degree
17211103	Product Safety Engineers	Engineering	5 = Bachelor's Degree
19103102	Range Managers	Life Sciences	5 = Bachelor's Degree
13209902	Risk Management Specialists	Mathematics	3 = Postsecondary Adult Vocational Training
13119902	Security Management Specialists	Computer Science	4 = Associate's Degree
191013	Soil and Plant Scientists	Chemistry, Life Sciences, Physics/Astronomy	5 = Bachelor's Degree
19103101	Soil and Water Conservationists	Life Sciences	5 = Bachelor's Degree
152041	Statisticians	Life Sciences, Mathematics	5 = Bachelor's Degree
15108101	Telecommunications Specialists	Computer Science	3 = Postsecondary Adult Vocational Training
17205101	Transportation Engineers	Engineering	5 = Bachelor's Degree
19309901	Transportation Planners	Engineering	5 = Bachelor's Degree
53605107	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	Engineering	2 = High School Diploma or GED
17219902	Validation Engineers	Engineering	5 = Bachelor's Degree
15109913	Video Game Designers	Computer Science	3 = Postsecondary Adult Vocational Training
11912102	Water Resource Specialists	Engineering	5 = Bachelor's Degree
17205102	Water/Wastewater Engineers	Engineering	5 = Bachelor's Degree
49909902	Wind Turbine Service Technicians	Engineering	2 = High School Diploma or GED
191023	Zoologists and Wildlife Biologists	Life Sciences	5 = Bachelor's Degree

Source: O*Net Prepared by the Florida Agency for Workforce Innovation, Labor Market Statistics Center

Top STEM Occupations in Demand

Again, using O*NET’s STEM occupations, the following charts show the top occupations for STEM that are in demand. Using Help Wanted OnLine analysis, we have gathered the number of online job ads that have appeared in Florida with the preparation of the Florida Agency for Workforce Innovation, Labor Market Statistics Center. You can see the shift towards managerial positions in most of the occupations as these are the highest numbers of the bunch. One reason for this could be due to retirement for Floridians and as managers in these occupations retire, entry-level workers need to be ready to step up and take those higher positions.

Top STEM Environmental Science Occupations in Demand

Occupation	Occupation Code	Online Ads April 2011
TOTAL ONLINE ADS		446
Environmental Engineers	17208100	110
Environmental Science and Protection Technicians, Including Health	19409100	83
Clinical Research Coordinators	11912101	61
Environmental Engineering Technicians	17302500	60
Environmental Scientists and Specialists, Including Health	19204100	43
Natural Sciences Managers	11912100	29
Environmental Science Teachers, Postsecondary	25105300	7
Environmental Restoration Planners	19204102	1

Top STEM Chemistry Occupations in Demand

Occupation	Occupation Code	Online Ads April 2011
TOTAL ONLINE ADS		724
Engineering Managers	11904100	306
Chemists	19203100	77
Clinical Research Coordinators	11912101	61
Chemical Engineers	17204100	53
Engineering Teachers, Postsecondary	25103200	37
Natural Sciences Managers	11912100	29
Chemistry Teachers, Postsecondary	25105200	13
Chemical Technicians	19403100	11
Soil and Plant Scientists	19101300	8
Chemical Plant and System Operators	51809100	8

Top Stem Geosciences Occupations in Demand

Occupation	Online Ads April 2011
TOTAL ONLINE ADS	587
Engineering Managers	306
Clinical Research Coordinators	61
Engineering Teachers, Postsecondary	37
Natural Sciences Managers	29
Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	16
Geoscientists, Except Hydrologists and Geographers	15
Chemistry Teachers, Postsecondary	13
Hydrologists	4

Top STEM Physics-Astromony Occupations in Demand

Occupation	Occupation Code	Online Ads April 2011
TOTAL ONLINE ADS		1,055
Health Specialties Teachers, Postsecondary	25107100	324
Engineering Managers	11904100	306
Chemists	19203100	77
Clinical Research Coordinators	11912101	61
Engineering Teachers, Postsecondary	25103200	37
Natural Sciences Managers	11912100	29
Nuclear Medicine Technologists	29203300	26
Physics Teachers, Postsecondary	25105400	22
Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	25105100	16
Physicists	19201200	12
Nuclear Monitoring Technicians	19405102	10
Soil and Plant Scientists	19101300	8
Atmospheric and Space Scientists	19202100	5

Top STEM Mathematics Occupations in Demand

Occupation	Occupation Code	Online Ads April 2011
TOTAL ONLINE ADS		825
Operations Research Analysts	15203100	304
Business Teachers, Postsecondary	25101100	133
Clinical Research Coordinators	11912101	61
Mathematical Science Teachers, Postsecondar	25102200	44
Clinical Data Managers	15204102	32
Natural Sciences Managers	11912100	29
Financial Specialists, All Other	13209900	27
Physics Teachers, Postsecondary	25105400	22
Atmospheric, Earth, Marine, and Space Scienc	25105100	16
Actuaries	15201100	15

Top STEM Engineering Occupations in Demand

Occupation	Occupation Code	Online Ads April 2011
TOTAL ONLINE ADS		9,377
Computer Software Engineers, Applications	15103100	1,578
Industrial Engineers	17211200	1,084
Automotive Specialty Technicians	49302302	1,055
Mechanical Engineers	17214100	597
Electrical Engineers	17207100	552
Automotive Master Mechanics	49302301	345
Computer Software Engineers, Systems Software	15103200	344
Engineering Managers	11904100	306
Construction Managers	11902100	286
Aerospace Engineers	17201100	233
Aircraft Mechanics and Service Technicians	49301100	217
Electronics Engineering Technicians	17302301	210
Electronics Engineers, Except Computer	17207200	198
Cost Estimators	13105100	186
Industrial Engineering Technicians	17302600	150
Computer Hardware Engineers	17206100	119
Environmental Engineers	17208100	110
Industrial Safety and Health Engineers	17211101	74
Avionics Technicians	49209100	73
Architectural Drafters	17301101	66

Top STEM Computer Science Occupations in Demand

Occupation	Occupation Code	Online Ads April 2011
TOTAL ONLINE ADS		18,341
Computer Systems Analysts	15105100	3,298
Computer Support Specialists	15104100	2,486
Accountants	13201101	2,132
Computer Software Engineers, Applications	15103100	1,578
Computer Programmers	15102100	1,486
Database Administrators	15106100	780
Computer and Information Systems Managers	11302100	762
Financial Analysts	13205100	602
Graphic Designers	27102400	566
Auditors	13201102	509
Computer Security Specialists	15107101	414
Network Systems and Data Communications Analysts	15108100	360
Computer Software Engineers, Systems Software	15103200	344
Engineering Managers	11904100	306
Operations Research Analysts	15203100	304
Electronics Engineering Technicians	17302301	210
Business Teachers, Postsecondary	25101100	133
Computer Hardware Engineers	17206100	119
Computer Science Teachers, Postsecondary	25102100	68
Multi-Media Artists and Animators	27101400	63

Top STEM Life Sciences Occupations in Demand

Top Occupations In Demand	Occupation Code	Online Ads April 2011
TOTAL ONLINE ADS		2,298
Medical Scientists, Except Epidemiologists	19104200	355
Health Specialties Teachers, Postsecondary	25107100	324
Engineering Managers	11904100	306
Dietitians and Nutritionists	29103100	234
Industrial Production Managers	11305100	88
Biological Science Teachers, Postsecondary	25104200	74
Biological Technicians	19402100	68
Clinical Research Coordinators	11912101	61
Quality Control Systems Managers	11305101	54
Environmental Scientists and Specialists, Including Health	19204100	43
Engineering Teachers, Postsecondary	25103200	37
Environmental Compliance Inspectors	13104101	32
Clinical Data Managers	15204102	32
Natural Sciences Managers	11912100	29
Quality Control Analysts	19409901	24
Microbiologists	19102200	20
Dietetic Technicians	29205100	20
First-Line Supervisors/Managers of Agricultural Crop and Horticultural Wor	45101107	18
Forest and Conservation Technicians	19409300	17
Biologists	19102001	17

Source: The Conference Board, Help Wanted Online, Prepared by the Florida Agency for Workforce Innovation, Labor Market Statistics Center.

Occupational Projections 2010-2018 for Selected Occupations

The following tables show the increase of STEM occupations in the state of Florida. The highest expected increase is in Medical Scientists, Except Epidemiologists at a total change of 40.3% and the lowest is in Chemists at 10.2%. Notice that not one is below a 10% mark. This shows Florida’s ability to secure a healthy workforce for the future.

Occupational Employment Projections in Florida for Environmental Engineers for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
172081	Environmental Engineers	2,938	3,426	488	2.1	16.6

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Environmental Engineering Technicians for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
173025	Environmental Engineering Technicians	1,116	1,416	300	3.4	26.9

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Engineering Managers for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
119041	Engineering Managers	4,170	4,713	543	1.6	13.0

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Chemists for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
192031	Chemists	2,044	2,252	208	1.3	10.2

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Operations Research Analysts for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
152031	Operations Research Analysts	7,413	8,608	1,195	2.0	16.1

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Computer Software Engineers, Applications for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
151031	Computer Software Engineers, Applications	18,139	22,998	4,859	3.3	26.8

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Industrial Engineers for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
172112	Industrial Engineers	9,356	11,306	1,950	2.6	20.8

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Computer Systems Analysts for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
151051	Computer Systems Analysts	21,783	25,726	3,943	2.3	18.1

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Computer Support Specialists for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
151041	Computer Support Specialists	32,841	37,859	5,018	1.9	15.3

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Medical Scientists, Except Epidemiologists for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
191042	Medical Scientists, Except Epidemiologists	2,668	3,743	1,075	5.0	40.3

Source: Labor Market Statistics, Occupational Employment Projections Unit

Occupational Employment Projections in Florida for Health Specialties Teachers, Postsecondary for a base year of 2010 and a projected year of 2018

Code	Occupational Title	2010 Estimated Employment	2018 Projected Employment	Total 2010-2018 Employment Change	Annual Avg. Percent Change	Total Percent Change
251071	Health Specialties Teachers, Postsecondary	10,255	11,906	1,651	2.0	16.1

Source: Labor Market Statistics, Occupational Employment Projections Unit

*Based on The Conference Board, Help Wanted OnLine data on STEM Occupations in Demand, April 2011.

Florida's Small Businesses

The number of Florida's businesses in 2008 have taken a slight dip with the exception of large businesses showing an increase of 4,460 in 2008 from 4,438 in 2007. These numbers reflect the recession and are expected to grow in the coming years.

Florida Small Business Facts			
	2008*	2007	2000
Number of Businesses			
Small employers (<500 employees)	410,339	427,837	349,747
Large employers (500+ employees)	4,460	4,438	4,216
Nonemployers	1,608,887	1,618,119	1,074,020
	Level in 2007*	% Share in 2007	% Change 2002-2007
Business Owner Demographics			
Male-owned	1,037,084	51.6	17.2
Woman-owned	581,026	28.9	32.8
Equally male/female-owned	330,513	16.4	82.4
African American-owned	181,469	9.0	77.8
Asian-owned	65,167	3.2	57.9
Hispanic-owned	450,185	22.4	68.8
Native American/Alaskan-owned	9,799	0.5	-1.2
Hawaiian/Pacific Islander-owned	1,838	0.1	24.2
Veteran-owned	176,744	8.8	n.a.
	Level in 2009*	% Change from 2008 2000	
Workforce (Thousands) /Unemployment (%)			
Private-sector employment	6,117	-7.1	0.5
Government employment	1,080	-1.3	9.1
Self-employed (incorp. & uninc.)	1,007	-8.0	21.4
Female self-employment	329	-3.6	26.5
Male self-employment	678	-10.0	19.1
Minority self-employment	294	-11.9	46.9
Veteran self-employment	102	-7.5	-9.1
Unemployment rate (%)	10.5	4.2†	6.7†
Business Turnover			
Quarterly establishment openings	129,635	0.3	21.7
Quarterly establishment closings	146,989	-4.2	70.2
Business bankruptcies	4,929	25.6	240.6
	2009*	2008	2000
Income and Finance			
Proprietors' income (\$billion)	38.9	41.4	30.0
Number of bank branches	5,820	5,771	4,661
No. of bus. loans under \$100,000‡	352,964	750,103	308,805
Total value of business loans under \$100,000 (\$million)‡	3,810	7,587	3,331
Source: U.S. Dept. of Commerce, Census Bureau, Bureau of Economic Analysis; U.S. Dept. of Labor, Bureau of Labor Statistics; Admin. Office of the U.S. Courts; Federal Deposit Insurance Corporation; and U.S. Small Business Admin., Office of Advocacy. * Latest available data. †Percentage point change. ‡Data are for CRA loans.			

Source: SBA Office of Advocacy. *Small Business Profile: Florida*. February 2011.

Women in STEM

Most people associate science and math fields with “male” and humanities and arts fields with “female,” according to research examined in this report. Implicit bias is common, even among individuals who actively reject these stereotypes. This bias not only affects individuals’ attitudes toward others but may also influence girls’ and women’s likelihood of cultivating their own interest in math and science. [...] Not only are people more likely to associate math and science with men than with women, people often hold negative opinions of women in “masculine” positions, like scientists or engineers. Research profiled in this report shows that people judge women to be less competent than men in “male” jobs unless they are clearly successful in their work. When a woman is clearly competent in a “masculine” job, she is considered to be less likable. Because both likability and competence are needed for success in the workplace, women in STEM fields can find themselves in a double bind. If women and men in science and engineering know that this bias exists, they can work to interrupt the unconscious thought processes that lead to it. It may also help women specifically to know that if they encounter social disapproval in their role as a computer scientist or physicist, it is likely not personal and there are ways to counteract it.

Source: Hill, PhD., Catherine, et al. *Why So Few? Women in Science, Technology, Engineering, and Mathematics*. AAUW. February 2010.

EDUCATION

Change the Equation's Vital Signs

In this STEM Vital Signs report, Change the Equation has compiled critical data on the condition of STEM learning in Florida. We provide these data to inform vigorous conversations about what it will take to improve STEM learning in the state. While there are no silver bullet fixes, the state can boost student outcomes by focusing on some key areas. For example:

- **Raise the bar on state tests.** The Florida state test rates 66 percent of the state's 8th graders as proficient in math. That's far more than the 29 percent of Florida 8th graders who score proficient on the National Assessment of Educational Progress (NAEP), which sets a consistent bar for student performance across the states and tracks international assessments.
- **Focus on achievement gaps.** Like all U.S. states, Florida has large achievement gaps between students of color and white students. Closing those gaps is both a moral and an economic imperative. The state should continually ensure that its policies target the diverse learning needs of all students, especially those who face the biggest hurdles, without diluting expectations.
- **Focus on teachers' content knowledge.** Fewer than half of Florida's 8th graders have teachers with a major or minor in math. University programs to recruit top STEM majors into teaching are one strategy for bringing more qualified teachers into the classroom.
- **Foster more engaging science instruction.** Large percentages of Florida students say they seldom write reports on science projects or talk about the results of those projects. Strategies for addressing this problem include providing professional development and classroom materials to help teachers get their students engaged in science.

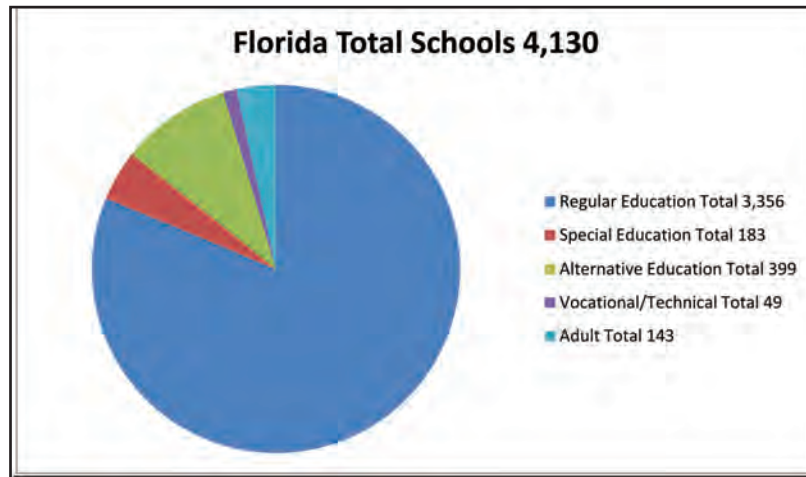
Source: Change the Equation. STEM Vital Signs. April 2011.

Americans are convinced that math and science skills are crucial for the future, with strong majorities who say there will be more jobs and college opportunities for students with those skills, according to a new Public Agenda survey. But while there's broad support from parents and the general public for K-12 national standards, more than half of parents (52%) say the math and science their child is getting in school is "fine as it is."

Source: Johnson, Jean, et al. Are We Beginning to See the Light? Public Agenda. June 2010.

Total Numbers of School in Florida Divided by Education Type

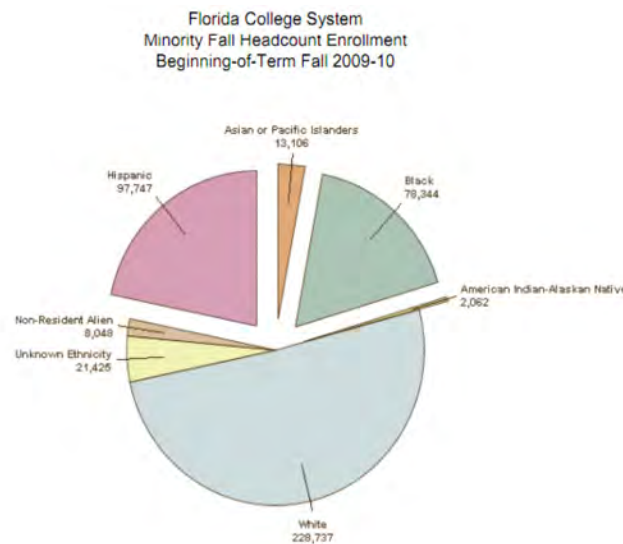
Florida’s regular education schools totals 3,356 but alternative education schools is only 399 and adult education is a mere 143. Florida’s adults 18-44 years make up 34.4% of the population according to the most recent U.S. Census statistics and Florida needs to address the adult population and life-long learning.



Source: Florida Department of Education. *Florida Total Schools*. Web. November 2010.

Minority Headcount Florida College System

Caucasian (white) students make up the largest percentage of Florida’s College System students. The second largest is Hispanic, followed by Black students



	American Indian-Alaskan Native		Asian or Pacific Islanders		Black		Hispanic		Non Resident Alien		Unknown Ethnicity		White		Total	
	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%	Sum	%
Fall 2009	2,062	0.46	13,106	2.92	78,344	17.43	97,747	21.75	8,048	1.79	21,425	4.77	228,737	50.89	449,469	100.00

Total Minority Enrollment = 191,259

Source: Florida Department of Education. *The Fact Book: Report for the Florida College System*. 2010.

Contributions of New Graduates to Florida's Economy

The following infographic shows the Return on Investment for new graduates to the workforce and economy in Florida. The low percentage of 43% likely continuing secondary education is nothing compared to 27% of new graduates actually expecting to complete their studies. If Florida can increase high school graduates, Florida could potentially increase GDP from \$597M at 43% to \$699M at 60%.

	<p>\$461 Million in Increased Earnings</p>	<p>Collectively, this single class of new graduates would likely earn as much as \$461 million more in an average year compared to their likely earnings without a high school diploma.</p>
	<p>\$346 Million in Increased Spending; \$114 Million in Increased Investments</p>	<p>New graduates' increased earnings, combined, would likely allow them to spend an additional \$346 million and invest an additional \$114 million during an average year.</p>
	<p>\$1.1 Billion in Increased Home Sales; \$50 Million in Increased Auto Sales</p>	<p>By the midpoint of their careers, these new graduates, combined, would likely purchase homes totaling in value of as much as \$1.1 billion more than what they otherwise would have spent without a diploma. In addition, they would likely spend up to an additional \$50 million in vehicle purchases during an average year.</p>
	<p>4,000 New Jobs; \$597 Million in Economic Growth</p>	<p>The additional spending and investments by these new graduates, combined, would be enough to support as many as 4,000 new jobs and increase the gross state product by as much as \$597 million by the time they reach their career midpoints.</p>
	<p>\$34 Million in Increased Tax Revenue</p>	<p>As a result of increased wages and higher levels of spending, state tax revenues would likely grow by as much as \$34 million during an average year.</p>
	<p>Increased Human Capital</p>	<p>After earning a high school diploma, 43% of these new graduates would likely continue on to pursue some type of postsecondary education, but only 12,200 students, or 27% of all new graduates, are expected to complete their studies. Boosting the share of new high school graduates who complete postsecondary programs to 60%—President Obama's goal for the nation⁴—would increase the number of postsecondary graduates to 27,100.</p>

Source: Alliance for Excellent Education. Education and the Economy: *Boosting Florida's Economy by Improving High School Graduation Rates*. March 2011.

Colleges in Florida

Out of 16 schools mentioned in the chart, only 11.9% of the enrollees have been awarded an Associate’s Degree in 2009-2010.

College Name	Name of Charter/Collegiate School	Type of School	Student Enrollment Fall 2010	Associate Degrees Awarded 09-10
Brevard Community College	Brevard Community College/ Brevard Public Schools Collegiate High School Program	Collegiate High School	476	144
Broward College	College Academy at Broward College	Collegiate High School	349	173
Daytona State College	Advanced Technology Center	Charter-Technical Career Center	1,123	0
Edison State College	Edison Collegiate High School -Charlotte	Charter School and Collegiate High School	200	0
Edison State College	Edison Collegiate High School - Lee Campus	Charter School and Collegiate High School	100	0
Florida State College at Jacksonville	Pathways Academy Charter High School	Charter School	128	0
Indian River State College	Clark Advanced Learning Center	Charter School	220	11
Miami Dade College	School for Advanced Studies - North Campus, Kendall Campus, Wolfson Campus, and Homestead Campus	Collegiate High School	518	71
Miami Dade College	New World School of the Arts	Collegiate High School	486	18
Northwest Florida State College	Collegiate High School at Northwest Florida State College	Charter School and Collegiate High School	275	80
Pensacola State College	Pensacola State Collegiate High School	Collegiate High School	440	0
Polk State College	Chain of Lakes Collegiate High School at Polk State College	Charter School and Collegiate High School	250	33
Polk State College	PSC Collegiate High School	Charter School and Collegiate High School	221	22
South Florida Community College	Career Academy at South Florida Community College	Career Technical Prep Academy	99	0
State College of Florida, Manatee-Sarasota**	State College of Florida Collegiate School	Charter School	0	0
St. Petersburg College	St. Petersburg Collegiate High School	Charter School	206	58
Totals	-	-	5091	610

Source: The Florida College System. *Charter and Collegiate High Schools in The Florida College System*. January 2011.

*Associate degrees awarded include collegiate high school, early admission, and regular dual enrollment students.

**The State College of Florida Collegiate Schools is in its first year of existence and plans to serve grades 6-12.

Minority Outcomes for Florida’s Public High School

2/15/2011

2008-09 FLORIDA PUBLIC HIGH SCHOOL GRADUATES’ STANDARD DIPLOMA OUTCOMES BY GENDER & RACE
STATEWIDE

GENDER ETHNICITY	Students Reported	University		Florida College System		District PSEC		Continuing Education		Found Employed		Cont. Ed. & Employed			
		#	%	#	%	#	%	#	%	#	%	#	%		
FEMALE															
ASIAN	1,777	794	45%	93	5%	521	29%	12	1%	1,380	78%	484	27%	389	22%
BLACK	11,350	2,551	22%	724	6%	4,614	41%	200	2%	7,851	69%	4,240	37%	3,006	26%
HISPANIC	12,708	2,443	19%	464	4%	6,172	49%	211	2%	9,065	71%	6,141	48%	4,577	36%
INDIAN	179	42	23%	7	4%	72	40%	2	1%	120	67%	81	45%	56	31%
MULTIRACIAL	1,498	361	24%	55	4%	595	40%	16	1%	998	67%	664	44%	464	31%
WHITE	34,128	9,486	28%	1,238	4%	14,230	42%	412	1%	24,598	72%	16,855	49%	12,622	37%
FEMALE TOTALS:	61,640	15,677	25%	2,581	4%	26,204	43%	853	1%	44,012	71%	28,465	46%	21,114	34%
MALE															
ASIAN	1,702	677	40%	54	3%	607	36%	12	1%	1,318	77%	442	26%	352	21%
BLACK	9,102	1,438	16%	496	5%	3,388	37%	116	1%	5,303	58%	3,062	34%	1,980	22%
HISPANIC	11,254	1,790	16%	295	3%	5,030	45%	262	2%	7,227	64%	4,907	44%	3,225	29%
INDIAN	184	36	20%	3	2%	76	41%	5	3%	115	63%	71	39%	45	24%
MULTIRACIAL	1,245	285	23%	36	3%	449	36%	8	1%	762	61%	477	38%	302	24%
WHITE	31,962	7,143	22%	1,007	3%	12,333	39%	577	2%	20,488	64%	13,676	43%	8,991	28%
MALE TOTALS:	55,449	11,369	21%	1,891	3%	21,883	39%	980	2%	35,213	64%	22,635	41%	14,895	27%
TOTALS:	117,089	27,046	23%	4,472	4%	48,087	41%	1,833	2%	79,225	68%	51,100	44%	36,009	31%

Source: Florida Education & Training Placement Information Program. 2008-09 Florida Public High School Graduates’ Standard Diploma Outcomes by Gender and Race Statewide. Web. June 2011.

From BrainTrack

According to Inside Higher Ed, a recently published article in the Journal of Personality and Social Psychology reports on a study conducted in several sections of an introductory calculus class. Researchers found that both men and women, but especially women, responded more frequently to questions posed in introductory calculus classes when their instructor was female vs. in male-taught classes. And, after several weeks of classes, female students with female instructors continued to approach their teachers with questions, while those with male instructors stopped doing so.

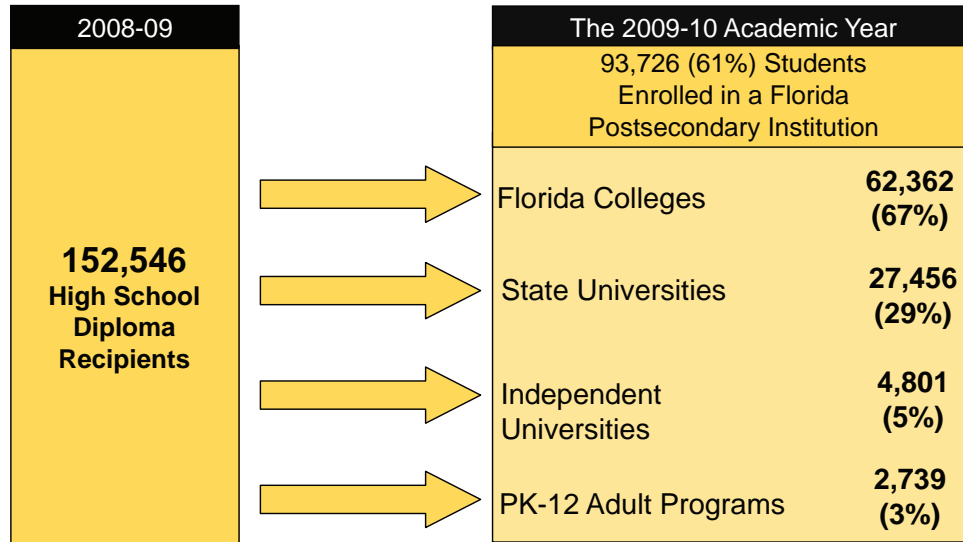
Lab Manager Magazine offers additional findings of the research: when women students had contact with female scientists, mathematicians and engineers, they tried harder on math tests, were more positive about the STEM fields, and felt better about their ability to succeed in these areas in the future.

The objective of the research was to develop strategies to overcome the sense that women don’t belong or may not do well in STEM. Nilanjana Dasgupta, associate professor of psychology at UMass and lead author of the study, hypothesized that female students receive such subtle signals when they don’t see women as role models in science and engineering. The results of the research indicate that she may be correct.

Dasgupta comments, “Interestingly, our data suggest that women were often unaware that the gender stereotype virus was affecting their decisions to avoid science, math, or engineering. Yet, despite their lack of awareness, the stereotype had a strong negative effect on women in STEM. However, on the optimistic side, encountering female scientists, mathematicians and engineers erased the negative effects and benefitted these young students.”

Source: BrainTrack. *Lack Of Women Role Models May Deter Women From Careers In Science And Engineering*. March 2011.

Where Florida’s High School Students are Going After Graduation



Source: The Florida College System. *The Florida College System Annual Report 2011.*

2010 Fall Student Enrollment in State University System Institutions, Undergraduate and Graduate Full-time by Degree Program

Within the STEM fields of study in the State University System, there are 103,275 undergraduates compared to 24,115 graduate students.

Degree Program (2 digit CIP Code)	Undergraduate, Full-time	Graduate, Full-time
01 - AGRICULTURE/AG OPS/RLTD SCI	1,786	408
03 - NATURAL RESOURCES/CONSERVATION	1,423	239
04 - ARCHITECTURE/RELATED SERVICES	1,172	666
11 - COMPUTR/INFO SCI/SUPPORT SRVCS	3,282	381
13 - EDUCATION	12,059	3,252
14 - ENGINEERING	15,838	4,026
15 - ENGNRG TECHNOLOGIES/TECHNICIANS	913	170
26 - BIOLOGICAL/BIOMEDICAL SCIENCES	17,621	1,791
27 - MATHEMATICS AND STATISTICS	1,219	578
40 - PHYSICAL SCIENCES	3,293	1,556
42 - PSYCHOLOGY	12,557	1,064
45 - SOCIAL SCIENCES	15,736	1,270
51 - HLTH PROFNS/RLTD CLNICL SCIS	16,376	8,714

Source: State University System, Board of Governors. Interactive University Database. Web. June 2011.

Degrees Awarded by State University System Institutions, Bachelor’s, Master’s and Doctorate, First Major, 2009-2010

Within the State University System, there were 26,674 Bachelor’s degrees awarded, 8,949 Master’s degrees awarded and 1,844 Doctorate degrees awarded. That’s a difference of 15,881 between undergraduate and graduate level degrees.

Degree Program (2 digit CIP Code)	Bachelor’s	Master’s	Doctorate
01 - AGRICULTURE/AG OPS/RLTD SCI	636	111	34
03 - NATURAL RESOURCES/CONSERVATION	293	90	24
04 - ARCHITECTURE/RELATED SERVICES	358	223	12
11 - COMPUTR/INFO SCI/SUPPORT SRVCS	700	197	30
13 - EDUCATION	4,097	2,950	265
14 - ENGINEERING	2,762	1,547	403
15 - ENGNRG TECHNOLOGIES/TECHNICIANS	523	187	0
26 - BIOLOGICAL/BIOMEDICAL SCIENCES	2,814	394	213
27 - MATHEMATICS AND STATISTICS	259	170	43
40 - PHYSICAL SCIENCES	529	134	164
42 - PSYCHOLOGY	3,599	295	107
45 - SOCIAL SCIENCES	5,699	505	114
51 - HLTH PROFNS/RLTD CLNCL SCIS	4,405	2,146	435

Source: State University System, Board of Governors. Interactive University Database. Web. June 2011.

Independent Colleges and Universities of Florida Statistics

- Nearly 47% of ICUF bachelor degrees are awarded in the critical fields of Education, Health Care, Engineering, Computer Science and Biology/Biomedical.
- More than half of ICUF graduates, regardless of “home” state, stay in Florida, boosting the skilled workforce.
- ICUF Institutions award a third of Florida’s health degrees including nursing and allied health.
- Nearly 45% of Florida resident students are minorities.

Source: The Independent Colleges & Universities of Florida. *Independent Colleges and Universities of Florida Who We Serve: Meeting the Higher Education Needs in Florida*. Ed. February 2011.

Student Enrollment State University System by Gender

The number of female students has increased in the last decade, from 142,952 in 2001 to 180,307 in 2010; however the increase in males went from 108,898 in 2001 to 141,106 in 2010. That’s a difference of over 5,000 more females continuing their education in Florida.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Female	142,952	148,706	154,640	158,536	164,270	167,690	170,938	171,580	176,406	180,307
Male	108,898	113,224	116,483	118,866	122,888	126,207	130,086	130,881	135,777	141,106
Unknown	134	423	214	160	177	119	111	52	76	90
Total	251,984	262,353	271,337	277,562	287,335	294,016	301,135	302,513	312,259	321,503

Student Enrollment State University System by Race & Ethnicity

In all but the Hispanic and Not Reported categories, there has been a decrease in enrollment. Hispanics increased by over 10,000 and the Not Reported category 120,719.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Asian	11,153	11,813	12,318	12,435	13,103	13,777	14,526	14,990	16,043	9,681
Black	36,510	37,903	39,581	39,898	40,323	40,743	41,064	41,190	42,719	33,182
Hispanic	35,866	38,230	40,514	42,909	46,516	49,751	52,177	54,452	57,870	46,785
Native Indian	1,093	1,115	1,135	1,072	1,017	1,131	1,218	1,338	1,518	1,177
NonRes Alien	11,062	11,576	10,917	12,401	12,427	11,179	12,006	12,282	12,944	10,193
White	152,966	157,432	162,136	164,192	168,726	172,251	174,876	173,003	175,352	96,432
Not Reported	3,334	4,284	4,736	4,655	5,223	5,184	5,268	5,258	5,813	124,053
Total	251,984	262,353	271,337	277,562	287,335	294,016	301,135	302,513	312,259	321,503

Source: State University System, Board of Governors. Interactive University Database. Web. June 2011.

FCAT State Math Demographic Report -- 2010

	Grade	Year	Group Name	Total Test Scores			
				No. of Students	% Pass.	Mean Dev. Score	Mean Scale Score
GRADE 03	3	2010	Total Students	205,720	-	1471	337
GRADE 03	3	2010	Standard Curriculum	179,425	-	1509	345
GRADE 04	4	2010	Total Students	197,256	-	1587	330
GRADE 04	4	2010	Standard Curriculum	170,584	-	1622	338
GRADE 05	5	2010	Total Students	196,648	-	1682	336
GRADE 05	5	2010	Standard Curriculum	168,793	-	1719	344
GRADE 06	6	2010	Total Students	194,399	-	1711	319
GRADE 06	6	2010	Standard Curriculum	167,345	-	1753	328
GRADE 07	7	2010	Total Students	197,130	-	1821	314
GRADE 07	7	2010	Standard Curriculum	169,778	-	1856	323
GRADE 08	8	2010	Total Students	192,919	-	1911	324
GRADE 08	8	2010	Standard Curriculum	165,942	-	1938	331
GRADE 09	9	2010	Total Students	200,111	-	1955	311
GRADE 09	9	2010	Standard Curriculum	172,665	-	1980	319
GRADE 10	10	2010	Total Students	179,252	84	2014	331
GRADE 10	10	2010	Standard Curriculum	158,599	89	2037	336

*No data are reported when fewer than 10 students were tested or when all students are in the same score category.

** Adding the percents in levels 3 – 5 may not result in the percent reported under "Level 3 and above" due to rounding.

- Not Applicable

Source: Florida Department of Education. *FCAT Student Performance Results: State Math Demographic Report*. Web. June 2011.

FCAT 2.0 Scores 2011-Math

FCAT 2.0 Mathematics – Next Generation Sunshine State Standards Test ²										
Grade	Year	Number of Students	FCAT Equivalent Mean Developmental Scale Score	FCAT Equivalent Mean Scale Score	Percent of Students by Achievement Level					Achievement Level Three & Above ^c
					1	2	3	4	5	
3	2011	202,719	1470	337	9	13	32	30	15	78
FCAT 2.0 Mathematics – Next Generation Sunshine State Standards Test ²										
Grade	Year	Number of Students	FCAT Equivalent Mean Developmental Scale Score	FCAT Equivalent Mean Scale Score	Percent of Students by Achievement Level					Achievement Level Three & Above ^d
					1	2	3	4	5	
4	2011	198,969	1590	331	10	16	36	26	11	74
FCAT 2.0 Mathematics – Next Generation Sunshine State Standards Test ⁶										
Grade	Year	Number of Students	FCAT Equivalent Mean Developmental Scale Score	FCAT Equivalent Mean Scale Score	Percent of Students by Achievement Level					Achievement Level Three & Above ⁸
					1	2	3	4	5	
5	2011	198,520	1681	336	14	23	27	27	9	63
FCAT 2.0 Mathematics – Next Generation Sunshine State Standards Test ⁶										
Grade	Year	Number of Students	FCAT Equivalent Mean Developmental Scale Score	FCAT Equivalent Mean Scale Score	Percent of Students by Achievement Level					Achievement Level Three & Above ⁸
					1	2	3	4	5	
6	2011	197,668	1712	319	23	20	29	19	9	57
FCAT 2.0 Mathematics – Next Generation Sunshine State Standards Test ¹⁰										
Grade	Year	Number of Students	FCAT Equivalent Mean Developmental Scale Score	FCAT Equivalent Mean Scale Score	Percent of Students by Achievement Level					Achievement Level Three & Above ¹²
					1	2	3	4	5	
7	2011	194,484	1822	314	19	19	32	21	9	62
FCAT 2.0 Mathematics – Next Generation Sunshine State Standards Test ¹⁰										
Grade	Year	Number of Students	FCAT Equivalent Mean Developmental Scale Score	FCAT Equivalent Mean Scale Score	Percent of Students by Achievement Level					Achievement Level Three & Above ¹²
					1	2	3	4	5	
8	2011	195,479	1912	325	12	20	38	18	12	68

Source: Florida Department of Education. 2011 Florida Statewide Assessment Scores. Web. June 2011.

Grade	Year	Number of Students	Mean Developmental Scale Score	Mean Scale Score	Percent of Students by Achievement Level					Achievement Level Three & Above ²
					1	2	3	4	5	
10	2001	144,236	1975	321	20	21	24	25	10	59
	2002	149,783	1967	319	19	21	25	27	8	60
	2003	165,624	1970	320	19	20	24	27	9	60
	2004	166,227	1982	323	16	21	26	29	9	63
	2005	178,530	1979	322	15	22	27	28	8	63
	2006	184,635	1987	324	15	19	26	31	8	65
	2007	185,346	1983	323	14	20	28	30	7	65
	2008	184,617	1998	327	12	19	28	33	8	69
	2009	185,910	2000	327	12	18	29	32	8	69
	2010	179,252	2014	331	10	17	29	35	9	73
	2011	184,332	2009	329	11	18	28	34	9	71

Source: Florida Department of Education. 2011 Florida Statewide Assessment Scores. Interactive FCAT Database. Web. June 2011

FCAT State Science Demographic Report -- 2010

	Grade	Year	Group Name	Total Test Scores	
				No. of Students	Mean Scale Score
GRADE 05	5	2010	Total Students	198,011	318
GRADE 05	5	2010	Standard Curriculum	168,308	326
GRADE 08	8	2010	Total Students	192,138	310
GRADE 08	8	2010	Standard Curriculum	165,391	319
GRADE 11	11	2010	Total Students	172,954	306
GRADE 11	11	2010	Standard Curriculum	152,949	312

*No data are reported when fewer than 10 students were tested or when all students are in the same score category.
 ** Adding the percents in levels 3 – 5 may not result in the percent reported under "Level 3 and above" due to rounding.
 - Not Applicable

*Reporting Categories: Phys. & Chem. = Physical and Chemical, Earth and Space = Earth and Space, Life and Envir. = Life and Environmental, Scie. Think = Scientific Thinking

Source: Florida Department of Education. *FCAT Student Performance Results: State Math Demographic Report*. Web. June 2011.

FCAT 2.0 Scores 2011- Science

Grade ³	Year	Number of Students	Mean Scale Score	Percent of Students by Achievement Level ²					Achievement Level Three & Above ⁴
				1	2	3	4	5	
5	2003	191,470	285	38	34	22	4	1	28
5	2004	195,700	286	37	34	24	4	1	29
5	2005	180,453	296	29	38	27	5	1	33
5	2006	195,877	299	29	36	27	6	2	35
5	2007	191,789	306	25	33	31	8	2	42
5	2008	194,991	310	23	33	32	9	3	43
5	2009	191,751	314	21	32	34	10	2	46
5	2010	196,011	318	19	32	35	11	4	49
5	2011	197,657	322	19	30	33	12	5	51
8	2003	189,425	287	36	37	24	3	0	28
8	2004	195,351	286	36	36	25	3	0	28
8	2005	198,670	291	36	32	26	5	1	33
8	2006	198,142	289	35	33	26	5	1	32
8	2007	197,536	298	31	31	30	7	1	38
8	2008	184,828	305	27	33	31	7	2	40
8	2009	193,018	305	27	32	32	8	2	41
8	2010	192,138	310	25	32	32	8	2	43
8	2011	194,975	315	23	32	33	9	3	46
10	2003	154,263	290	42	29	23	5	1	29
10	2004	163,546	287	40	30	24	5	1	30
11	2005	142,353	293	36	31	27	5	1	33
11	2006	149,848	298	32	33	30	4	0	35
11	2007	164,580	302	30	33	31	5	1	37
11	2008	165,456	304	29	33	31	6	1	38
11	2009	167,041	303	31	32	30	6	1	37
11	2010	172,954	306	28	34	32	6	1	38
11	2011	164,047	307	28	32	32	7	1	40

Source: Florida Department of Education. *2011 Florida Statewide Assessment Scores*. Web. June 2011.



FCAT Math and Science 2010 by Race, Ethnicity and Gender

Grade	Year	Group Name	Number of Students	Mean Developmental Scale Score	Mean Scale Score	% Level 1	% Level 2	% Level 3	% Level 4	% Level 5	% Level 6
5	2010	Total Students	196648	1682	336	14	23	27	27	9	63
5	2010	Black	43731	1571	312	25	32	25	16	3	43
5	2010	Hispanic	53242	1661	331	15	25	27	26	7	60
5	2010	Asian/Pacific Islander	4872	1825	366	5	12	20	37	26	83
5	2010	American Indian/ Alaskan	672	1693	338	13	22	26	29	10	65
5	2010	Multiracial/ Ethnic	7152	1695	339	12	23	29	28	9	65
5	2010	Unreported Race/ Ethnicity	114	1498	297	31	26	29	14	0	43
5	2010	Female	96160	1675	334	14	25	27	26	8	62
5	2010	Male	100382	1689	337	13	22	26	28	10	64
5	2010	Unreported Gender	106	1510	299	33	27	26	12	1	40
8	2010	Total Students	192919	1911	324	12	20	38	19	12	68
8	2010	Black	42693	1828	303	23	29	35	9	3	48
8	2010	Hispanic	50797	1893	320	14	21	39	17	9	65
8	2010	Asian/Pacific Islander	4863	2024	353	4	8	29	26	32	88
8	2010	American Indian/ Alaskan	660	1915	325	12	19	36	19	13	68
8	2010	Multiracial/ Ethnic	5905	1927	328	9	19	40	20	12	72
8	2010	Unreported Race/ Ethnicity	87	1803	297	31	23	31	14	1	46
8	2010	Female	95041	1912	325	12	21	38	18	11	68
8	2010	Male	97803	1911	324	13	18	37	19	12	68
8	2010	Unreported Gender	75	1835	305	25	21	37	15	1	53
10	2010	Total Students	179252	2014	331	10	17	29	35	9	73
10	2010	Black	38420	1931	310	20	28	31	19	2	52
10	2010	Hispanic	44441	1998	327	11	19	31	32	7	70
10	2010	Asian/Pacific Islander	4897	2104	353	4	9	20	42	26	88



Grade	Year	Group Name	Number of Students	Mean Developmental Scale Score	Mean Scale Score	% Level 1	% Level 2	% Level 3	% Level 4	% Level 5	% Level 6
10	2010	American Indian/Alaskan	581	2014	331	7	17	33	34	8	76
10	2010	Multiracial/Ethnic	4786	2026	334	8	16	30	36	10	76
10	2010	Unreported Race/Ethnicity	199	1897	302	31	24	30	14	2	46
10	2010	Female	89459	2012	330	9	19	30	33	8	72
10	2010	Male	89615	2017	331	10	16	28	36	10	74
10	2010	Unreported Gender	178	1891	301	30	24	30	13	2	46

Sources: Florida Department of Education. *FCAT Student Performance Results: State Math Demographic Report*. Web. June 2011.

Grade	Group Name	Number of Students	Mean Scale Score	% Level 1	% Level 2	% Level 3	% Level 4	% Level 5	%>=3
5	Total Students	196011	318	19	32	35	11	4	49
5	Black	43600	290	34	39	23	3	1	27
5	Hispanic	53134	308	23	35	32	8	2	42
5	Asian/Pacific Islander	4863	342	11	23	39	18	9	67
5	American Indian/Alaskan	668	319	18	33	35	11	3	49
5	Multiracial/Ethnic	7115	325	15	32	38	11	4	53
5	Unreported Race/Ethnicity	153	273	42	34	21	1	1	24
5	Female	95865	316	19	34	34	10	3	47
5	Male	100029	320	19	30	35	12	4	51
5	Unreported Gender	117	275	41	33	23	1	2	26
8	Total Students	192138	310	25	32	32	8	2	43
8	Black	42451	276	44	34	19	2	0	22
8	Hispanic	50624	299	30	34	28	6	1	35
8	Asian/Pacific Islander	4857	343	13	24	40	17	7	64
8	American Indian/Alaskan	657	315	22	33	32	9	3	44
8	Multiracial/Ethnic	5873	321	19	32	36	10	3	49



Grade	Group Name	Number of Students	Mean Scale Score	% Level 1	% Level 2	% Level 3	% Level 4	% Level 5	%>=3
8	Unreported Race/Ethnicity	115	260	53	32	13	2	0	15
8	Female	94721	306	26	35	31	7	2	39
8	Male	97341	314	24	29	33	10	3	47
8	Unreported Gender	76	260	57	28	13	3	0	16
11	Total Students	172954	306	28	34	32	6	1	38
11	Black	38355	280	47	35	16	1	0	18
11	Hispanic	43095	296	34	35	26	4	1	30
11	Asian/Pacific Islander	4849	328	17	28	40	12	3	55
11	American Indian/Alaskan	573	310	22	38	35	4	1	40
11	Multiracial/Ethnic	4089	314	22	34	36	7	1	44
11	Unreported Race/Ethnicity	362	285	43	33	22	1	1	23
11	Female	87275	303	30	36	30	4	1	34
11	Male	85386	310	26	31	34	7	2	43
11	Unreported Gender	293	289	40	35	23	2	1	25

Sources: Florida Department of Education. *FCAT Student Performance Results: State Science Demographic Report*. Web. June 2011.

ACT Trends by Racial/Ethnic Groups

Over the past five years, Florida has experienced substantial growth in the number minority students taking the ACT test. African American test takers have increased by 114%, Hispanics by 140%, American Indians by 77%, Asians by 73%, and Whites by 56%.

Higher levels of preparation were associated with higher average ACT composite scores for all racial subgroups.

Higher average ACT composite scores were experienced by all racial subgroup students who indicated higher expected levels of educational attainment.

Source: Florida Department of Education. *ACT Trends Florida and the Nation 2010*. Web. June 2011.

Florida's SAT Performance

There was a 10.4% increase in the number of Black students in Florida's public school class of 2010 taking the SAT, as compared to a 7.1% increase nationwide. Black public school SAT test takers comprise 14.0% of public school SAT test takers nationwide.

Florida's black public school students outscored their counterparts nationwide on all three SAT subsections. Mean Critical Reading scores for Florida's black public school students is eight points higher, mean Mathematics is five points higher, and mean Writing is three points higher than black students in public schools nationwide.

There was a 15% increase in the number of Hispanic students in Florida's public school class on 2010 taking the SAT, as compared to a 7.7% increase nationwide. Hispanic public school SAT test takers compromise 24.5% of Florida's public school SAT test takers, whereas Hispanic public school SAT test takers comprise 15.2% of public school SAT test takers nationwide.

Once again, Hispanic students in Florida's public schools outperformed their counterparts nationwide on all three SAT subsections. Mean Critical Reading scores for Florida's Hispanic students is 28 points higher, mean Mathematics is 16 points higher, and mean Writing is 19 points higher than Hispanic students in public schools nationwide.

AP participation and performance for Black students in Florida's public schools continues to outpace the participation and performance for Black students seen nationwide.

Florida continues to have the greatest number of Black AP Exam-Takers, the greatest number of AP Exams administered to Black students when compared to all other states.

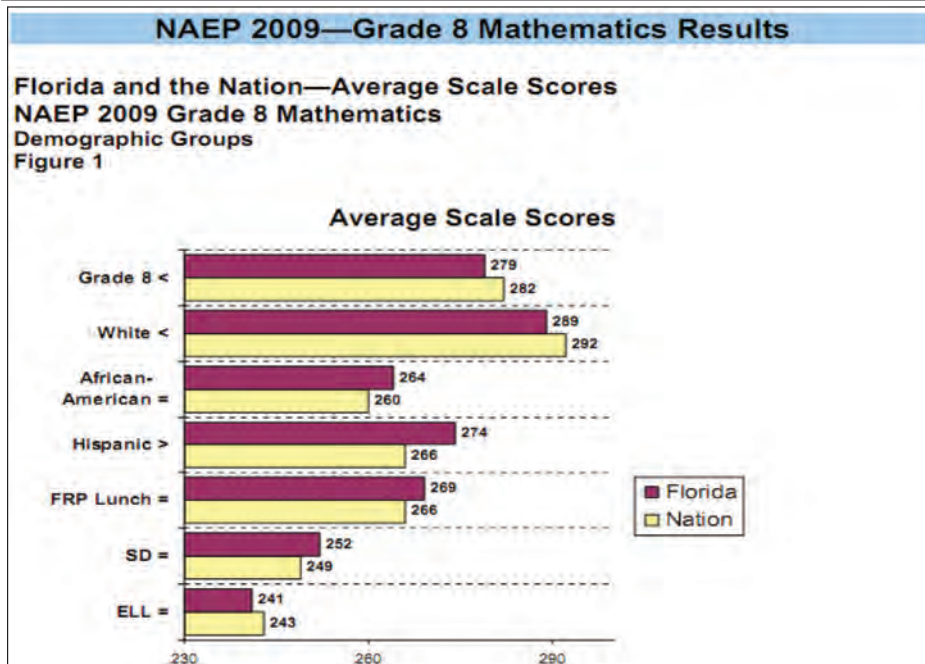
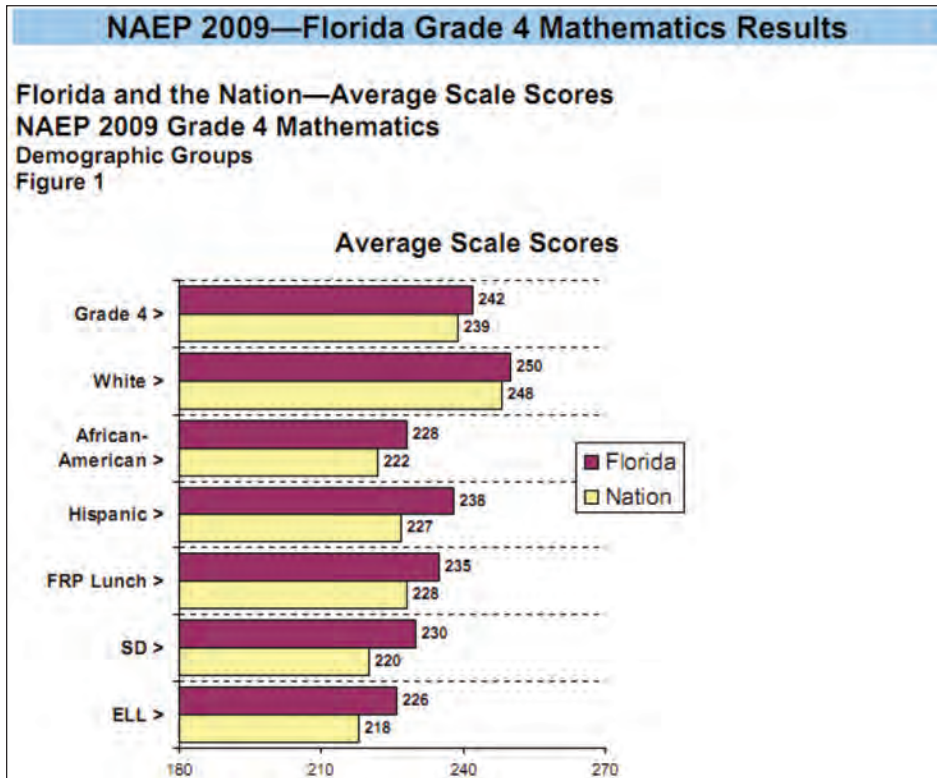
AP participation and performance for Hispanic students in Florida's public schools continues to soar.

Florida has the second greatest increase in the number of Hispanic AP Exam-Takers, number of AP Exams administered to Hispanic students, and number of AP Grades of 3 or higher received by Hispanic students when compared to all other states.

Source: Florida Department of Education. *Florida State Agency Report Delivery: 2009-2010 Florida Public School Data Highlights*. Web. June 2011.

NAEP '09

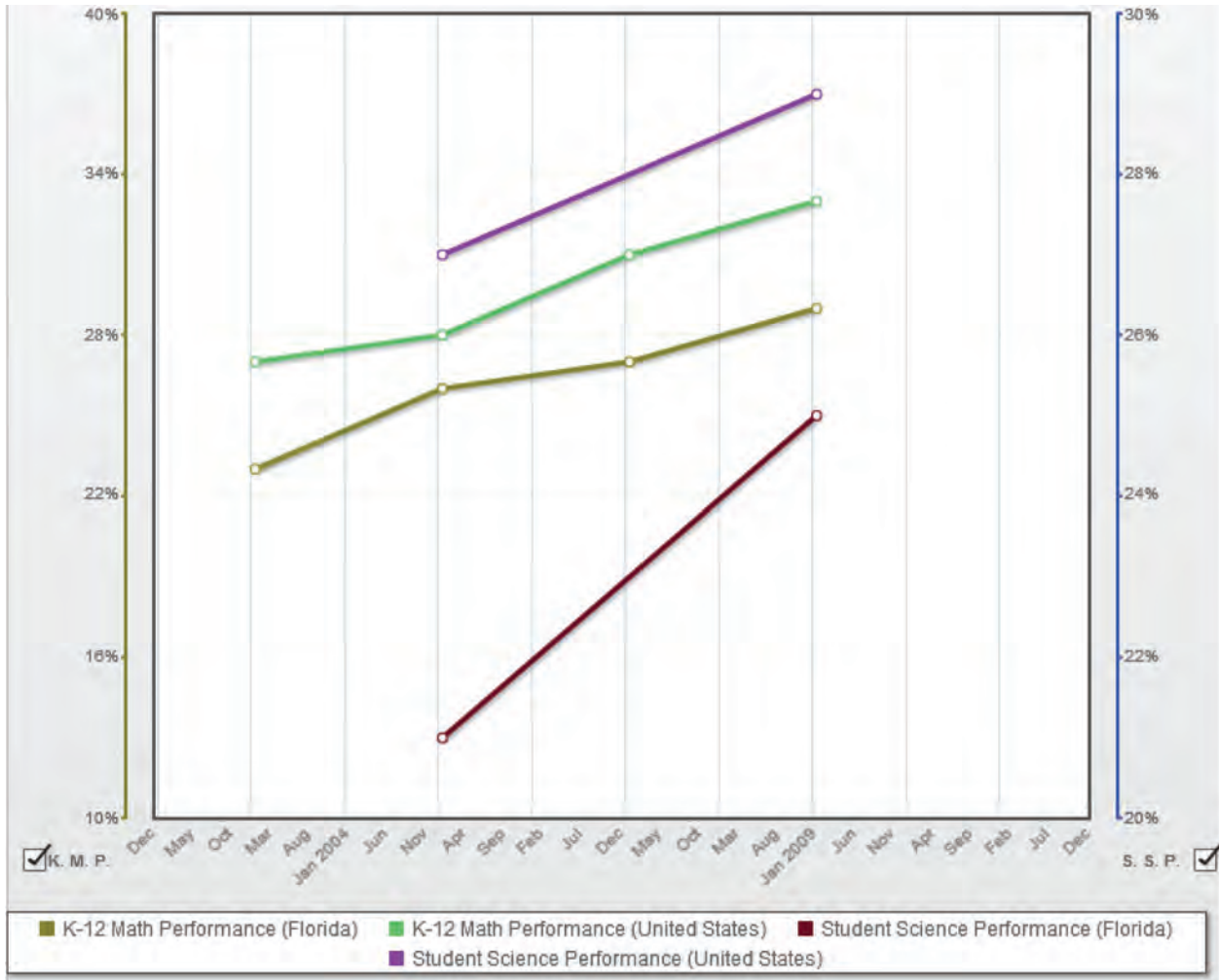
Average Scale Scores for Mathematics in the NAEP results shows that Florida is higher than the Nation in Grade 4, but later in Grade 8 Florida calls behind the Nation.



Source: National Assessment of Educational Process. Web. June 2011.

K-12 Math Performance and Student Science Performance 2001-2010 - United States and Florida

Compared to national trends in K-12 Math and Science performance, Florida falls behind; however, in Math, the gap between Florida and national is fairly small. Florida’s Science performance has increased dramatically in the past ten years and the achievement level has even surpassed the national’s increase.



Source: The Florida Scorecard. Web. June 2011.

Postsecondary Awards in Science, Technology, Engineering, and Mathematics for Florida (2000-2009)

There has been close to a 25% change in postsecondary awards for STEM awards, however there has been a huge dip in Computer and Information Science (-28.1).

Postsecondary Awards in Science, Technology, Engineering, and Mathematics for Florida (2000-2009)

<u>2000-01</u>			<u>2008-2009</u>			<u>% Change Between 2000-2001 and 2008-2009</u>	
All Fields	All STEM Fields		All Fields	All STEM Fields		All Fields	All STEM Fields
	Number	%		Number	%		
174,058	16,036	9.2	261,772	20,036	7.7	50.4	24.9

Number of awards conferred and number, percentage, and percentage change of awards conferred in science, technology, engineering, and mathematics (STEM) fields at Title IV institutions: Academic years 2000-01 and 2008-09

<u>Year</u>	<u>All STEM Fields</u>	<u>STEM Field</u>					
		<u>Computer and Information Science</u>	<u>Engineering and Engineering Technologies</u>	<u>Biological and Biomedical Science</u>	<u>Mathematics and Statistics</u>	<u>Physical Sciences</u>	<u>Science Technologies</u>
2000-2001	16,036	6,035	6,872	2,057	332	734	6
2008-2009	20,036	4,341	10,098	3,820	555	1,068	154
% Change for 2000-2001 and 2008-2009	24.9	-28.1	46.9	85.7	67.2	45.5	2,467.0

Number of awards and percentage change of awards conferred in science, technology, engineering, and mathematics (STEM) fields at Title IV institutions: Academic years 2000-01 and 2008-09

Source: U.S. Department of Education. *Postsecondary Awards in Science, Technology, Engineering, and Mathematics by State: 2001 and 2009*. April 2011.

Title IV refers to institutions eligible to participate in the Title IV federal financial aid programs (e.g., Pell Grants and Stafford Loans).

These tables group the ICE designated STEM instructional programs into six STEM fields: computer and information sciences; engineering and engineering technologies; biological and biomedical sciences; mathematics and statistics; physical sciences; and science technologies.

Minority Postsecondary Awards in Science, Technology, Engineering, and Mathematics for Florida (2000-2009)

In 2000-2001 16,036 students were awarded a STEM degree; 35.4% were women. In 2008-2009, 20,036 students were awarded a STEM degree and 29.0% were earned by women.

Number of awards and number, percentage, and percentage change in the number of awards conferred in science, technology, engineering, and mathematics (STEM) fields to women at Title IV institutions: Academic years 2000–01 and 2008–09

<u>2000-2001</u>			<u>2008-2009</u>			
Total Number	Number Earned by Women	% Earned by Women	Total Number	Number Earned by Women	% Earned by Women	% Change
16,036	5,670	35.4	20,036	5,804	29.0	2.4

<u>Year</u>	<u>All STEM Fields</u>	<u>STEM Field</u>					
		<u>Computer and Information Science</u>	<u>Engineering and Engineering Technologies</u>	<u>Biological and Biomedical Science</u>	<u>Mathematics and Statistics</u>	<u>Physical Sciences</u>	<u>Science Technologies</u>
2000-2001	5,670	2,711	1,262	1,247	155	292	3
2008-2009	5,804	1,013	1,703	2,345	213	444	86
% Change for 2000-2001 and 2008-2009	2.4	-62.6	34.9	88.1	37.4	52.1	2,767.0

Percentage distribution and change of awards conferred in science, technology, engineering, and mathematics (STEM) fields at Title IV institutions, by field: Academic year 2008–09

In both 2000-2001 and 2008-2009 Hispanic or Latino demonstrate the highest numbers of awards earned in STEM.

	<u>Total Number</u>	<u>American Indian or Alaska Native</u>	<u>Asian, Native Hawaiian, or Other Pacific Islander</u>	<u>Black or African American</u>	<u>Hispanic or Latino</u>	<u>Two or more races</u>	<u>Race/Ethnicity unknown</u>	<u>Non resident alien</u>
2000-2001	16,036	56	817	2,018	2,985	***	314	1,667
2008-2009	20,036	71	1,206	2,502	3,952	11	784	2,083
% Change	24.9	26.8	47.6	24.0	32.4	***	149.7	25.0

Number of awards and percentage change in number of awards conferred in science, technology, engineering, and mathematics (STEM) fields at Title IV institutions, by race/ethnicity: Academic years 2000–01 and 2008–09

Source: U.S. Department of Education. *Postsecondary Awards in Science, Technology, Engineering, and Mathematics by State: 2001 and 2009*. April 2011.

Title IV refers to institutions eligible to participate in the Title IV federal financial aid programs (e.g., Pell Grants and Stafford Loans).

These tables group the ICE designated STEM instructional programs into six STEM fields: computer and information sciences; engineering and engineering technologies; biological and biomedical sciences; mathematics and statistics; physical sciences; and science technologies.

Florida Public Universities 2007-2008 Bachelor Graduates 2008 Fall Findings

Out of the 48,369 graduates in Florida’s Public Universities 19% continued their education and 62% found employment.

University	Graduates	Continuing Education		Employed # %		Full Qtr Employed	% Full Qtr Employed	FQ Avg. Wages
Florida A&M University	1,448	275	19%	820	57%	602	73%	\$8,275
Florida Atlantic University	4,324	777	18%	2,998	69%	2,473	82%	\$10,193
Florida Gulf Coast University	1,204	255	21%	872	72%	720	83%	\$9,218
Florida International University	5,282	1,029	19%	3,611	68%	3,014	83%	\$10,197
Florida State University	7,382	1,331	18%	4,086	55%	3,045	75%	\$8,459
New College of Florida	167	20	12%	58	35%	32	55%	\$6,263
University of Central Florida	8,839	1,560	18%	5,930	67%	4,721	80%	\$9,289
University of Florida	8,409	2,125	25%	4,047	48%	2,796	69%	\$9,482
University of North Florida	2,743	365	13%	2,029	74%	1,667	82%	\$9,245
University of South Florida	6,862	1,312	19%	4,731	69%	3,815	81%	\$9,235
University of West Florida	1,710	324	19%	1,029	60%	776	75%	\$8,257
Totals	48,369	9,373	19%	30,210	62%	23,660	78%	\$9,338

Source: Florida Education and Training Information Program. Web. June 2011.

CLIMATE AND COLLABORATION

General STEM Programs & Cluster Specific Programs

General STEM Programs	
<p>PRISM Promoting Regional Improvement in Science & Math</p> <ul style="list-style-type: none"> Connects Central Florida School Boards Coalition (CFSBC) and business community to enhance STEM teaching and learning Will work with CFSBC to identify corporate and public policies to support STEM education Will work with companies to assess, better coordinate, develop, and increase impact of STEM programs Working to develop repository of curriculum and best practices for teachers Recognizes excellence in students and teachers with awards Business leaders on Board—e.g. Lockheed Martin, Progress Energy, EA, Regions Bank Effort to expand beyond central Florida 	<p>Target Audience students: PreK-12 teachers: PreK-12</p> <p>Geography Central Florida: Brevard, Hillsborough, Lake, Manatee, Marion, Orange, Osceola, Polk, Seminole, & Volusia County School Districts</p> <p>Role for Business Industry contribution possible across spectrum of activities:</p> <ul style="list-style-type: none"> Curriculum guidance Develop corporate and public policies to enhance STEM education Offer student and/or teacher internships or seminars Sponsor or coach student teams in math and science competitions <p>Distinguishing Characteristic</p> <ul style="list-style-type: none"> Regional collaboration of business and education leaders
<p>Project Lead the Way</p> <ul style="list-style-type: none"> Prepared curriculum program using a hands-on, problem-based approach to engage students in STEM subjects Provides course content, materials, student assessments, and teacher access to online professional development tools Middle school level programs provide general STEM curriculum High school curricula seek to prepare students for 2 and 4 year college STEM majors 	<p>Target Audience students: grades 6-8 and 9-12 teachers: grades 6-8 and 9-12</p> <p>Geography statewide: at least 12 middle schools & 40 high schools in PLTW</p> <p>Role for Business PLTW schools commit to having a Partnership Team composed of mentors/advisors from business and the community that may:</p> <ul style="list-style-type: none"> Offer program input to help apply curriculum Mentor students and/or lead in-classroom projects and exercises Provide equipment/supplies <p>Distinguishing Characteristics</p> <ul style="list-style-type: none"> Nationally recognized / developed by national organization
<p>Teacher Quest</p> <ul style="list-style-type: none"> TRDA-administered 7 week, paid summer professional development program for STEM teachers to work at science and technology based businesses Teachers gain greater understanding of industry and applicability of STEM subjects to work to take back to the classroom Goal to improve teaching and help spark student interest in STEM fields 	<p>Target Audience teachers: grades 6-8</p> <p>Geography Central Florida (pilot expansion about to begin)</p> <p>Role for Business Businesses can host and/or sponsor a teacher</p> <p>Distinguishing Characteristics Focused on teacher professional development</p>
<p>Expanding Your Horizons</p> <ul style="list-style-type: none"> UCF College of Engineering and Computer Science conference that brings 300 middle school girls to campus to introduce them to STEM careers through workshops and hands-on learning opportunities Parents receive simultaneous workshops about why daughters should choose STEM fields and how to help prepare them 	<p>Target Audience Female students: grades 6-8</p> <p>Geography Orlando / Central Florida</p> <p>Role for Business Women engineers from community present workshops</p> <p>Distinguishing Characteristics Female-focused program</p>

General STEM Programs (continued)

<p>IHMC Community Programs</p> <ul style="list-style-type: none"> the Institute for Human and Machine Cognition conducts a number of community outreach/education programs including <i>Science Saturdays</i>, a fun and hands-on science program for elementary school children its <i>I LOVE Science</i> program (Increasing Local Opportunities for Volunteers Enthusiastic about Science), launched with Gulf Power, sends local volunteers to lead monthly 1-hour hands-on science activities in 5th grade classrooms 	<p>Target Audience Students: grades 3-5</p> <p>Geography Northwest Florida</p> <p>Role for Business The <i>I LOVE Science</i> program requires community volunteers</p> <p>Distinguishing Characteristic One of few programs targeted elementary students</p>
<p>GEOSET</p> <ul style="list-style-type: none"> initiative of the Florida Center for Research in Science, Technology, Engineering & Math (FCR-STEM) develops rich media, internet-based learning modules to help educators teach concepts and to increase student interest in STEM subjects and careers modules are free to view and download modules can be created by any interested party, but are subject to quality control (and currently must be produced at FSU or participating center) module length and scope of subject vary as needed 	<p>Target Audience students: all ages teachers: all grade levels</p> <p>Geography Internet-based / global</p> <p>Role for Business Currently largely confined to academia, but potential for businesses to get involved by:</p> <ul style="list-style-type: none"> developing modules for teachers to teach specific topics developing modules for students of all ages about STEM careers and subjects (e.g. using math in real life, career profiles) <p>Distinguishing Characteristics</p> <ul style="list-style-type: none"> internet-based, so easily accessed around the state at any time taps into creativity of students and STEM community potential to establish Florida as a center of excellence in innovative, internet-based STEM learning
<p>JETS (Junior Engineering Technical Society)</p> <ul style="list-style-type: none"> national organization promoting engineering and technology careers through experiential learning opportunities and career information (videos, profiles, toolkits, etc.) its flagship TEAMS program is an annual academic competition for high school schools tasked with solving real-world engineering problems 	<p>Target Audience Students: grades 9-12</p> <p>Geography Statewide: already more than a dozen participating schools</p> <p>Role for Business Businesses can coach teams and/or sponsor competitions</p> <p>Distinguishing Characteristics national organization offers hands-on learning through competition</p>
<p>Technology Student Association (TSA)</p> <ul style="list-style-type: none"> national organization for students enrolled in technology classes/interested in STEM fields TSA members learn problem solving, critical thinking, and leadership skills through co-curricular activities, competitive events (local, state, national), and related programs Vast array of competitions can have either a broad STEM focus (e.g. cyberspace, technology issues) or a more cluster-specific topic (e.g. power/energy, transportation, animatronics, construction, architecture, biotechnology) 	<p>Target Audience Students: grades 6-8 and 9-12</p> <p>Geography statewide: more than 50 participating middle and high schools</p> <p>Role for Business Businesses can contact Florida TSA about opportunities to sponsor or coach teams or judge at competitions</p> <p>Distinguishing Characteristics Student organization, so more bottom-up than other approaches</p>

Cluster-Specific STEM Programs	
<p>Career Academies</p> <ul style="list-style-type: none"> Variety of cluster/career specific high school curriculum programs (e.g. biotechnology, aviation) offered through a school-within-a-school model or via a technical center Many result in industry-recognized certification or training Offer training in high demand and/or high wage occupations and tend to be relevant to local economy/industry Academically rigorous to support college continuation 	<p>Target Audience students: grades 9-12</p> <p>Geography statewide: hundreds of career academies across Florida, with at least 1 program offered in all 67 counties</p> <p>Role for Business Businesses can contact relevant/local academies, which offer a wide range of opportunities for involvement, such as:</p> <ul style="list-style-type: none"> curriculum guidance mentorship/internships for students sponsorship of specific academy/program <p>Distinguishing Characteristic Prepare graduating student for immediate entry into jobs</p>
<p>Project Lead the Way</p> <ul style="list-style-type: none"> Prepared curriculum program using a hands-on, problem-based approach to engage students in STEM subjects Provides course content, materials, student assessments, and teacher access to online professional development tools Middle school level programs provide general STEM curriculum High school curricula seek to prepare students for 2 and 4 year college engineering, biomedical science, and other STEM programs New programs (e.g. clean energy) under development 	<p>Target Audience students: grades 6-8 and 9-12 teachers: grades 6-8 and 9-12</p> <p>Geography statewide: at least 12 middle schools & 40 high schools in PLTW</p> <p>Role for Business PLTW schools commit to having a Partnership Team composed of mentors/advisors from business and the community that may:</p> <ul style="list-style-type: none"> Offer program input to help apply curriculum Mentor students and/or lead in-classroom projects and exercises Provide equipment/supplies Offer internships to PLTW students <p>Distinguishing Characteristics</p> <ul style="list-style-type: none"> nationally recognized / developed by national organization program focus changes from broad to specific as students age
<p>Scripps Florida Education & Outreach</p> <ul style="list-style-type: none"> Scripps promotes bioscience education and awareness through a range of outreach programs including <i>Science Saturday</i>, career panels, <i>Introduction to Science</i> lectures, and hands-on learning in Florida schools Summer research internships for teachers to expose them to current lab techniques, issues in basic biomedical research, and create ties to working scientists for curriculum development Summer internship program for high school students to provide hands-on lab experience <p><i>Similar programs also in place at Torrey Pines</i></p>	<p>Target Audience students: grades 6-8 and 9-12 teachers: grades 6-8 and 9-12</p> <p>Geography South Florida (not limited by Scripps, but likely by distance)</p> <p>Role for Business May be potential for businesses or other research institutions to partners with Scripps or to create their own outreach efforts to address specific company or industry needs</p> <p>Distinguishing Characteristics Bioscience focus</p>

Cluster-Specific STEM Programs (continued)

<p>techCAMP</p> <ul style="list-style-type: none"> Florida High Tech Corridor Council initiative offering 1 or 2 day workshops to middle and high school teachers to provide them with the knowledge and tools necessary to guide students in their pursuit of high tech careers previous seminars for semiconductors, optics and photonics, and modeling, simulation & training plans for a digital media/interactive entertainment, IT, life sciences/biotech, and photonics camps and programs underway 	<p>Target Audience teachers: grades 6-8 and 9-12</p> <p>Geography Central Florida</p> <p>Role for Business Businesses can contact FHTCC for ways to get involved</p> <p>Distinguishing Characteristic alignment with Florida's targeted clusters</p>
<p>Gulf Power Workforce Development Education Partnerships</p> <ul style="list-style-type: none"> Gulf Power engages in a broad range of workforce development / STEM efforts partnership programs with local schools offer power-industry relevant curriculum for students of all ages—especially through the award-winning Gulf Power Academy (a Florida career academy) the Gulf Power Institute (a CHOICE institute), and the Get Into Energy middle school summer camp (a UWF Explore summer camp). Gulf Power also participates in/offers general STEM programs for elementary students 	<p>Target Audience students: K-12</p> <p>Geography Northwest Florida</p> <p>Role for Business Gulf Power's programs offer models for replication</p> <p>Distinguishing Characteristic Comprehensive approach to industry talent development</p>
<p>Skills USA</p> <ul style="list-style-type: none"> national organization serving high school career and technical education (CTE) students—its programs include local, state and national competitions in which students demonstrate occupational and leadership skills SkillsUSA programs also help to establish industry standards for job skill training broad cluster / occupation coverage, ranging from 3-D animation to telecommunications cabling 	<p>Target Audience students: grades 6-8 and 9-12</p> <p>Geography statewide: regional chapters in place across Florida</p> <p>Role for Business Range of opportunities for business involvement in Florida: <ul style="list-style-type: none"> coach, judge and/or sponsor teams in Skills USA competitions provide instruction / training to CTE students provide technology for CTE programs provide advice/guidance on CTE programs </p> <p>Distinguishing Characteristic alignment with Florida's targeted clusters</p>
<p>Technology Student Association (TSA)</p> <ul style="list-style-type: none"> national organization for students enrolled in technology classes/interested in STEM fields TSA members learn problem solving, critical thinking, and leadership skills through co-curricular activities, competitive events (local, state, national), and related programs Vast array of competitions can have either a broad STEM focus (e.g. cyberspace, technology issues) or a more cluster-specific topic (e.g. power/energy, transportation, animatronics, construction, architecture, biotechnology) 	<p>Target Audience Students: grades 6-8 and 9-12</p> <p>Geography statewide: more than 50 participating middle and high schools</p> <p>Role for Business Businesses can contact Florida TSA about opportunities to sponsor or coach teams or judge at competitions</p> <p>Distinguishing Characteristics Student organization, so more bottom-up than other approaches</p>

Source: Enterprise Florida. *Strategy Council Ad-Hoc Subcommittee on K-12 STEM Education Discussion Paper*. January 22, 2009.

Academic Year 2011/2012 Curriculum Frameworks By Career Cluster

The 2011/2012 curriculum frameworks in the following career clusters have not yet been approved by the State Board of Education and are provided for planning purposes only.

- Agriculture, Food & Natural Resources
- Architecture & Construction
- Arts, A/V Technology & Communication
- Business, Management & Administration
- Education & Training
- Energy
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety & Security
- Manufacturing
- Marketing, Sales & Service
- Science, Technology, Engineering & Mathematics (STEM)
- Transportation, Distribution & Logistics
- Additional CTE Programs/Courses
 - Diversified Education
 - Instructional Support Services (Special Needs)
 - Other Vocational Programs
 - M/J Exploratory Career Education Wheel

Source: Florida Department of Education. *Academic Year 2011/2012 Curriculum Frameworks By Career Cluster*. Web. June 2011.

National Technology Ranking—Beacon Hill Index



	Subindexes, Rank in 2010																	
	Overall		Govt & Fiscal Policy		Security		InfrStrc		Human Resources		Tech		Biz Incub.		Openness		Enviro Plcy	
	Index	Rank	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
North Dakota	7.39	1	5.61	4	5.43	12	5.80	1	6.09	4	5.40	13	5.14	16	4.65	36	6.17	1
Colorado	6.79	2	5.10	22	5.47	11	5.47	5	5.39	16	5.90	3	5.62	4	4.73	31	5.54	16
Massachusetts	6.76	3	4.80	34	5.30	15	4.72	40	6.44	1	7.77	1	5.31	11	5.44	9	4.41	40
Wyoming	6.54	4	4.85	32	4.86	35	5.61	2	5.39	15	4.25	43	6.32	1	5.22	14	5.76	10
Minnesota	6.42	5	4.73	39	5.79	3	5.24	10	6.18	2	5.80	5	4.88	29	4.84	25	5.68	11
Nebraska	6.36	6	5.23	18	5.58	5	5.56	3	5.88	7	4.97	26	4.92	28	4.65	37	5.58	13
Utah	6.22	7	5.39	8	5.07	24	5.04	25	5.60	8	5.41	12	5.97	2	5.03	18	4.39	41
South Dakota	6.01	8	5.44	7	4.93	32	5.38	8	5.55	11	4.47	36	5.61	5	4.16	50	6.03	3
Iowa	5.95	9	5.30	13	5.60	4	5.12	18	6.01	5	5.02	24	4.80	35	4.68	35	5.37	18
New Hampshire	5.91	10	5.25	16	5.14	22	4.61	44	5.95	6	5.44	11	5.54	6	4.65	38	5.62	12
Virginia	5.81	11	5.55	5	4.99	28	5.02	26	5.18	24	5.52	10	5.34	9	4.74	30	5.09	26
Florida	5.79	12	6.08	1	4.91	34	5.06	24	4.35	40	4.28	40	5.48	7	5.36	12	5.29	21
Kansas	5.68	13	4.76	38	5.12	23	5.41	7	5.33	20	5.03	23	4.98	24	4.84	27	5.88	7
Washington	5.62	14	4.78	36	4.62	40	5.17	12	5.29	21	5.71	6	4.21	50	6.22	3	5.83	9
Oregon	5.60	15	5.36	12	5.51	9	5.12	17	4.81	31	5.20	18	4.31	49	5.18	15	5.87	8
Nevada	5.47	16	5.76	2	4.93	33	5.49	4	4.11	45	3.76	50	5.19	13	5.38	11	5.29	20
Montana	5.47	17	4.77	37	5.26	17	5.44	6	5.25	22	4.84	31	5.06	21	4.17	49	6.08	2
Idaho	5.37	18	4.92	26	5.30	14	5.08	22	4.83	30	4.96	27	5.17	15	4.63	40	5.89	6
Vermont	5.36	19	4.89	29	5.14	21	4.32	50	6.11	3	5.88	4	4.58	40	5.10	16	5.95	5
Rhode Island	5.31	20	4.67	42	5.81	2	4.88	34	5.35	18	5.68	8	4.85	32	4.93	21	4.66	35
North Carolina	5.21	21	5.15	21	5.06	25	5.35	9	4.43	39	5.11	21	5.35	8	4.72	32	4.62	37
Delaware	5.19	22	5.48	6	4.66	38	4.89	32	4.89	27	5.19	19	5.93	3	5.44	10	3.06	49
Wisconsin	5.18	23	4.88	31	5.54	7	4.90	30	5.56	9	5.12	20	4.55	43	4.69	34	5.58	14
Arizona	5.04	24	5.20	19	5.47	10	4.79	39	4.86	29	4.78	33	5.18	14	5.01	19	4.61	38
Texas	4.99	25	4.90	28	4.52	42	4.96	27	4.24	43	4.86	30	5.08	20	6.24	2	5.13	25
Maryland	4.81	26	4.78	35	4.93	31	4.61	45	5.52	12	6.78	2	5.05	23	4.85	24	3.53	47
Alaska	4.79	27	5.19	20	4.56	41	4.46	49	4.79	32	4.29	38	4.49	45	6.97	1	5.27	23
Connecticut	4.73	28	4.21	48	5.58	6	4.62	42	5.56	10	5.66	9	4.54	44	5.45	8	4.57	39
California	4.71	29	4.23	47	5.22	19	4.53	46	4.44	38	5.69	7	5.11	17	6.02	4	4.70	32
Missouri	4.71	30	5.38	11	4.75	37	5.12	16	4.94	25	5.00	25	4.83	34	4.30	48	4.97	30
New York	4.66	31	4.28	46	5.06	26	4.46	48	5.36	17	5.27	16	4.83	33	5.72	6	5.18	24
Maine	4.65	32	4.68	41	5.21	20	4.80	38	5.49	13	4.15	47	4.95	25	4.45	43	6.02	4
Michigan	4.59	33	4.88	30	5.53	8	4.88	33	4.53	35	5.30	15	4.47	46	4.84	26	4.98	28
Illinois	4.49	34	4.68	40	5.22	18	4.95	29	4.90	26	5.03	22	4.34	48	5.31	13	4.82	31
Pennsylvania	4.47	35	4.56	44	5.31	13	4.96	28	5.33	19	5.35	14	4.87	30	4.61	41	4.01	45
New Jersey	4.45	36	3.89	50	6.02	1	4.68	41	5.24	23	4.90	28	5.33	10	5.69	7	3.01	50
Indiana	4.35	37	5.72	3	4.98	29	4.84	37	4.69	33	4.67	34	4.86	31	4.92	22	3.45	48
Arkansas	4.16	38	5.30	14	4.49	43	5.14	14	4.26	42	3.97	49	5.05	22	4.38	46	5.39	17
Louisiana	4.14	39	5.04	24	4.01	48	5.14	13	4.12	44	4.23	44	4.92	27	5.78	5	4.67	34
Hawaii	4.13	40	4.17	49	4.98	30	5.13	15	5.45	14	4.45	37	4.45	47	4.95	20	5.01	27
Kentucky	4.08	41	4.65	43	5.28	16	5.08	21	4.33	41	4.21	45	4.71	38	5.05	17	4.63	36
South Carolina	3.98	42	5.39	10	4.65	39	4.85	36	3.97	48	4.27	42	4.94	26	4.91	23	4.68	33
Ohio	3.91	43	4.84	33	4.81	36	5.17	11	4.87	28	4.90	29	4.58	41	4.71	33	3.66	46
Tennessee	3.84	44	5.39	9	4.07	47	5.09	20	4.09	46	4.29	39	5.09	18	4.79	29	4.35	42
Oklahoma	3.82	45	4.54	45	4.32	45	5.07	23	4.56	34	4.27	41	5.08	19	4.34	47	5.57	15
Georgia	3.78	46	5.27	15	3.74	50	5.09	19	4.05	47	4.63	35	5.20	12	4.81	28	4.34	43
New Mexico	3.74	47	4.90	27	3.84	49	4.90	31	4.51	36	5.25	17	4.78	37	4.45	44	5.29	22
Alabama	3.42	48	4.92	25	4.08	46	4.86	35	3.97	49	4.79	32	4.59	39	4.64	39	5.30	19
West Virginia	3.27	49	5.05	23	5.00	27	4.61	43	4.46	37	4.16	46	4.57	42	4.49	42	4.24	44
Mississippi	2.88	50	5.23	17	4.33	44	4.52	47	3.47	50	4.12	48	4.80	36	4.43	45	4.98	29

Source: Beacon Hill Institute. *Tenth Annual State Competitiveness Report*. 2010.

Subindex/Variable Index Rank	Subindex/Variable Index Rank	Subindex/Variable Index Rank
Technology subindex	4.28	40
Academic R&D per \$1,000 GSP	3.88	47
NIH support to institutions per capita	4.27	44
Patents, per 100,000 inhabitants	4.44	31
Science & Engineering grad. students 100,000 inhabitants	4.43	35
S&E degrees awarded per 100,000 inhabitants	3.81	46
Scientists and engineers as % of labor force	4.26	39

Source: Beacon Hill Institute. *Tenth Annual State Competitiveness Report*. 2010.

Florida ranked 29th for IT professionals according to the Kauffman Foundation.

33rd for Knowledge Jobs according to the Kauffman Foundation.

*Knowledge Jobs defined as: “managerial, professional, and technical positions held by individuals with at least two years of college. Such skilled and educated workers are the backbone of states’ most important industries, from high-value-added manufacturing to high-wage traded services.”

20th for Globalization.

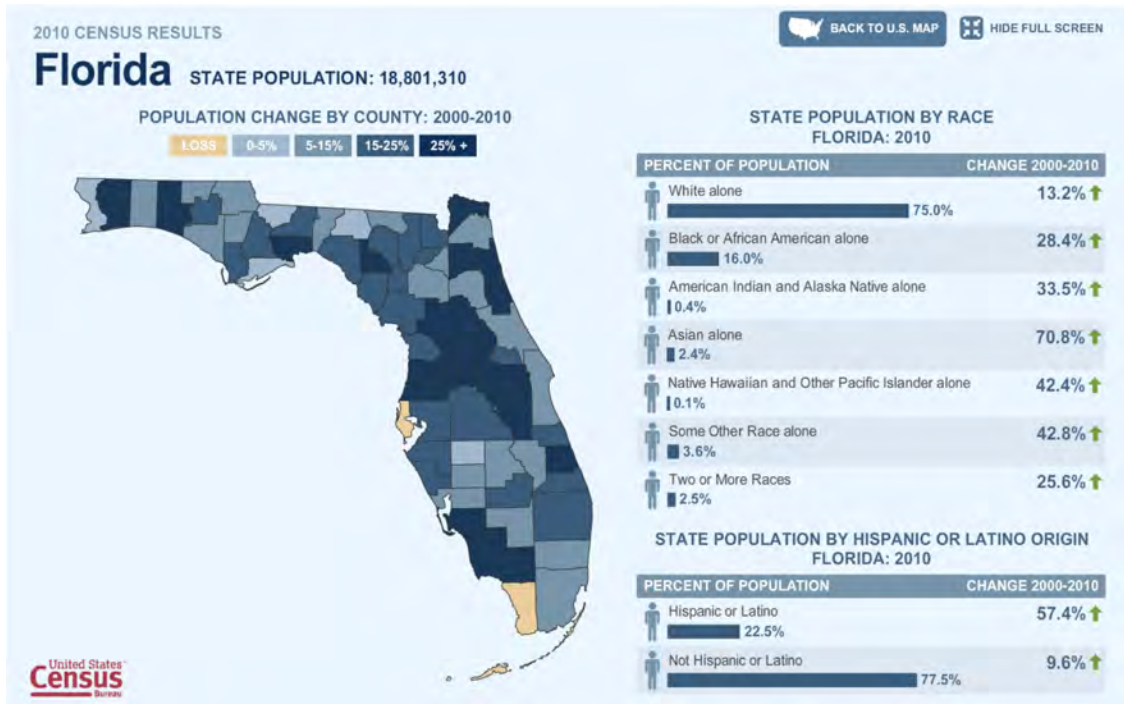
* “The globalization indicators in this section measure two aspects of globalization: The extent to which the state’s manufacturing and service workforce is employed producing goods and services for export; 33 and 2) the share of the workforce employed by foreign-owned companies.”

Snapshot of Florida, CNBC

Category	Score	2010 Rank	2009 Rank
Cost of Doing Business	160	41	43
Workforce	286	1	3
Quality of Life	163	31	27
Economy	44	48	23
Transportation & Infrastructure	112	21	18
Technology & Innovation	186	13	15
Education	68	35	40
Business Friendliness	86	23	26
Access to Capital	34	17	12
Cost of Living	11	30	40
OVERALL	1150	28	28

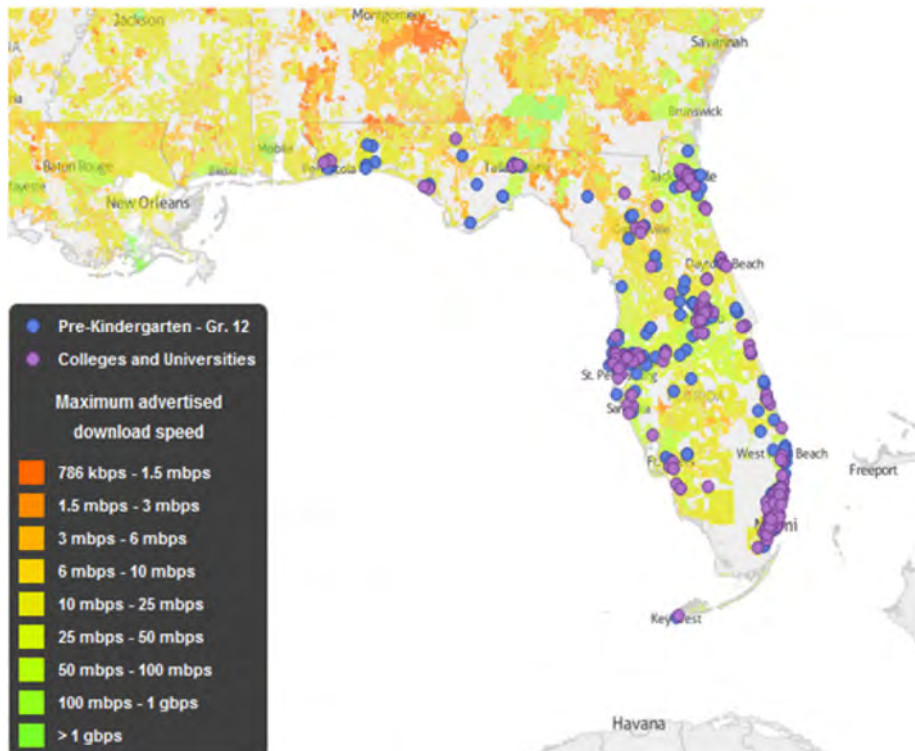
Source: CNBC. *America’s Top States for Business 2010: A Special Report*. Web. June 2011.

Florida Census 2010



Source: Office of Economic and Demographic Research. *2010 Census Information*. Web. June 2011.

Broadband Availability in Florida



Source: U.S. Department of Education. *Broadband Availability for U.S. Schools*. Web. June 2011.



STEM Florida Phase I Launch Stakeholders

BSC

The MITRE Corporation
Carvajal Consulting & Management
DITEK Corporation
Enterprise Florida, Inc.
Florida Chamber of Commerce
The Florida Council of 100, Inc.
Governor's Office of Tourism, Trade & Economic Development
Gulf Power Company
Harris Corporation
IBM
The Institute for Human & Machine Cognition
Jabil Circuit
Keiser University
Lockheed Martin
Mayo Clinic Jacksonville
Mitsubishi Power Systems, Inc.
PCS Phosphate White Springs
Scripps Florida
Space Florida
Workforce Florida, Inc.

Business Stakeholders

American Building Components
The Arland Affiliation
BioFlorida
Burkett Engineering
Richard H. Cantin CPA, PA
Carvajal Consulting & Management
Celadon Solutions Inc.
Coastal Caisson Corp.
Dignitas Technologies, LLC
Florida Chamber of Commerce
General Dynamics Land Systems
Grace Healthcare
Gulf Breeze Animal Hospital
Gulf Power Company
Harris Corporation
HCA/St. Lucie Medical Center
IBM
& Jabil, Inc./Jabil University
JEA
Lakeland Electric
Lockheed Martin
Manufacturers Association of Central Florida
The MITRE Corporation
Moore Consulting Group
National Forensic Science Technology Center

Pen Air FCU
Perlin Group
PLWconsulting group, LLC
Polk Manufacturing Association
Professional Mechanical Technologies, Inc.
Raytheon Company
Rockwell Collins
Scripps Florida
South Florida Manufacturers Association
Tata Business Support Services, LTD.

Torrey Pines Institute for Molecular Science
United Healthcare

Education Stakeholders

Bay District Schools
Brevard Public Schools
Central Florida Institute
Charlotte County Public Schools
Columbia County School District
Duval County Public Schools
Escambia County School District
Florida Department of Education
Florida Department of Education – Division of Career and Adult Education
Florida Virtual School
Hillsborough Community College
Hillsborough County Public Schools
Indian River State College
Jacksonville University
McKeel Academy of Technology
National Center for Construction Education & Research
Northwest Florida State College
Okaloosa County School Board
Okaloosa County School District
Pasco County School Board
Pinellas County Schools
Pinellas Technical Education Centers – St. Pete
Rollins College
Santa Fe College
Santa Rosa School District
Sarasota County Schools
School District of Osceola County
University of South Florida – Power Center for Utility Explorations

Economic Development Organizations Stakeholders

Columbia County IDA/EDO
Cornerstone Regional Development Partnership
EDC of Tallahassee/Leon Co., Inc.
Enterprise Flagler
Florida's Great Northwest
Pensacola Bay Area Chamber of Commerce
South Hillsborough Economic Development Council

Workforce Development Boards Stakeholders

Gulf Coast Workforce Board
North Florida Workforce Board
Workforce Alliance
Workforce Development Board of Okaloosa & Walton Counties – Business Competitiveness Council
Workforce Escarosa
Workforce Florida, Inc.
Workforce Solutions
Worknet Pinellas
WorkSource Organization

Public Partners Stakeholders

Alachua County Public Schools Foundation
ARCS Foundation – Tampa Bay
Banner Center for Aviation & Aerospace
Banner Center for Construction
Banner Center for Secondary Career Academies
Bay Education Foundation Organization
Career Technical Education Foundation, Inc.
Consortium of Florida Education Foundations
City of Bradenton
Dixie County Chamber of Commerce
Early Learning Coalition of Southwest Florida
Education Foundation of Martin County
Education Foundation of Palm Beach Co., Inc.
Education Foundation of Sarasota County
The Education Fund
Flagler County Education Foundation

Florida Association of School Administrators
Florida High Tech Corridor Council
Florida Masonry Apprentice & Education Foundation
Foundation for Orange County Public Schools
Futures Foundation
Gulf Coast Community Foundation of Venice
Helios Education Foundation
Hillsborough Education Foundation
Jacksonville Regional Chamber of Commerce
Jacksonville Public Education Fund
Jan Moran Collier City Learning Library
JWB Children's Services Council
Learning Systems Institute at Florida State University
Lake Wales Chamber of Commerce
National Flight Academy
Orlando Regional Chamber of Commerce
Panama City Beach Chamber of Commerce
Pinellas Education Foundation
Polk Arts Alliance
Polk Education Foundation
Quantum Foundation
Santa Rosa County Chamber of Commerce
Science Center of Pinellas County
St. Johns County Education Foundation
Technological Research and Development Authority
United Negro College Fund

Source: STEM Florida. *STEM Florida Businesses and Stakeholders*. Web. 2011.

Florida Chamber of Commerce's Where We Stand

A strong pool of globally competitive workers will be a powerful lure for businesses who hope to prosper in the state of Florida. This issue is of great importance to all of Florida's employers, not just those in the education industry. Through our grassroots efforts, Florida Chamber members are focused on creating a world class education system for our state.

The Florida Chamber views a quality education as a vehicle for ensuring Florida's transition to the new economy and will lead efforts to enhance educational governance, focus on better outcomes and improve opportunities for lifelong learning.

PRE-K

We all know that learning begins long before kindergarten. Every child deserves an opportunity to perform better in school and throughout life by participating in quality Pre-K programs designed to prepare them for kindergarten and build the foundation for their educational success.

PRIMARY & SECONDARY

According to research from the Foundation for Florida's Future, effective teaching is the single most important factor in determining a student's success in school. Although Florida has begun to embrace some of the reforms necessary to create a world class education system, there is still much work to be done.

HIGHER EDUCATION

Quality colleges and universities are a key factor in creating a highly skilled workforce, and Florida's college and university system has the power to lead our state's transformation into a knowledge-based economy. If we can continue to empower these higher learning institutions, Florida will be poised to produce the most globally competitive college graduates in the nation.

WORKFORCE DEVELOPMENT

In addition to quality education, there are a variety of ways to help Florida cultivate a highly skilled, globally competitive workforce. By focusing on high-value initiatives such as Quick Response Training – a program designed to assist new businesses and provide existing businesses the necessary training for expansion – we can ensure Florida remains a national leader in producing a talented workforce.

Source: Florida Chamber of Commerce. *Where We Stand: A Guide to the Florida Chamber's 2011 Business Agenda*. Web. June 2011.

A State by State Update on Race to the Top Winners

Florida has not had any amendments approved to their RTTT application—it is not clear if any requests are pending.

- A \$20 million contract is being negotiated to pay for new charter schools in the feeder networks of the state's persistently low-performing schools.
- Another contract to bring virtual learning to gifted and talented students in STEM subjects is also in the works.
- In all, the state will manage 48 contracts related to the Race to the Top, budgeted to be worth \$350 million.
- 63 of the 74 statewide LEAs signed an MOU, though 69 had originally signed on. Florida's scope of work has yet to be approved.

Source: Institute For A Competitive Workforce. *A State by State Update on Race to the Top Winners*. May 2011.

The Florida Council of 100's Closing the Gap

Put simply, rigorous standards are the foundation for a successful education. Currently, Florida is engaged in a 48-state ("Common Core") effort led by the National Governors Association and the Council of Chief State School Officers to establish common, rigorous academic standards in math and language arts and, later, in other subjects, as well.

Additionally, high school graduation standards must be aligned with college and career readiness standards. Such standards must include (1) real-world application of science, technology, engineering, and mathematics ("STEM") principles, and (2) the knowledge necessary for students to thrive in the global innovation economy, including the "21st Century" skills of critical thinking and writing, problem-solving, research, out-of-the-box thinking, and team-building. To achieve this, both the business community and every postsecondary partner must communicate effectively with the secondary system to ensure necessary skills are being learned by students. Further, depending on the amount of time it will take to implement such improved standards via the Common Core State Standards Initiative or collaboration with Massachusetts, the Legislature should consider implementing the recommendations of the American Diploma Project, including adding geometry, biology, chemistry, and Algebra II 10 I Closing the Talent Gap to high school graduation course requirements.

Finally, the state should permit Algebra I to fulfill the current No Child Left Behind 10th grade comprehensive math requirement.

Ultimately, schools must be held accountable for the progressive achievement of their students. [...] The state should also consider weighting performance in STEM-related accelerated courses more heavily.

Enact a "New Florida Initiative": Florida's economy has historically been driven by three main factors: the tourism industry, the agriculture industry, and rapid population growth. While the first two drivers will continue to be key economic pillars, rapid population growth will not. As such, a new third pillar is needed to augment the state's high-wage job structure: a knowledge-based economy that promotes "STEM," or science, technology, engineering, and mathematics. The State University System needs to be a key, if not the key, driver of this transformation by turning Florida into a magnet for researchers and industry needing an educated populous.

Focusing at least half of the new funding in specific STEM degree programs, with the remainder being used to enhance the general pool of degreed citizens with creative and analytical thinking skills and to develop a related pool of graduates with degrees needed for regional development (education, business, nursing, computing, etc.).

It is critical that Florida's higher education system be tailored to produce graduates who meet the needs of (1) the high-growth businesses that will drive and diversify the state's innovation economy, and (2) the state's critical support occupations.

Source: The Florida Council of 100. *Closing the Talent Gap A Business Perspective*. January 2010.

The Florida College System Business Plan

Over their working lifetime, a single year's graduates will currently add almost \$21 billion dollars to Florida's economy and provide economic activity that leads to the creation of 158,000 jobs.

Over their working lifetime, it is projected that the increased number of graduates in 2015-16 will add over \$33 billion dollars to Florida's economy and provide economic activity that leads to the creation of 250,000 jobs.

Source: The Florida College System. *The Florida College System Business Plan 2011-2012*. December 2010.

New Knight-Funded Study Reveals that 1 in 4 Graduates from Tallahassee's Three Major Colleges and Universities Are Still Living in the Region

A representative sampling of 1,408 area college graduates from 2004 to 2006 reveals that 27% are still living in Tallahassee as of summer, 2009. This will serve as a baseline graduate retention figure for the region against which any future gains or losses can be compared. Based on an estimated 14,000 degrees conferred each year by the three institutions (source: National Center for Education Statistics), this 27% figure equates to an annual yield of 3,700 new graduates who choose to remain in Tallahassee either to join the local workforce (85%) or pursue further education (15%). Of the 27% who chose to remain in the region, 45% lived outside of the region's four counties (Leon, Gadsden, Wakulla, and Jefferson) prior to enrolling, showcasing a respectable net-gain of college-educated residents generated by the area's higher education institutions. Closer inspection also revealed that 69% of "native" students (those who graduated high school within the four counties and stayed for college) typically choose to remain after earning their degree, while only 19% of "non-native" students (from elsewhere in Florida and out-of-state) choose to stay in Tallahassee after graduating.

Source: John S. and James L. Knight Foundation. *New Knight-Funded Study Reveals that 1 in 4 Graduates from Tallahassee's Three Major Colleges and Universities Are Still Living in the Region.* August 2009.

Florida's State University System: An Investment that Creates Jobs!

In direct terms, the existence of a university within a geographic region creates thousands of jobs for those individuals living in the community. As noted above, the earlier study projected that college graduates generate \$10.7 billion in additional income over their lifetimes, leading to the creation of 283,546 jobs. A more current review (2004) and projection indicates that the SUS had 52,740 graduates, resulting in \$22.3 billion in income compared to the lifetime earnings of high school graduates, and led to the creation of 475,260 jobs. A comparison of the annual salaries of those with a high school diploma and those with a B.A./B.S. degree or higher illustrates these differences in earnings as shown in the graph above.

Other studies lend support to this significant contribution of universities to the state's economy. For example, another study found that the University of Florida impacts the state's economy by providing direct employment for 34,000 faculty and staff at the University and Shands Healthcare, and total statewide employment impacts of 74,894 jobs.

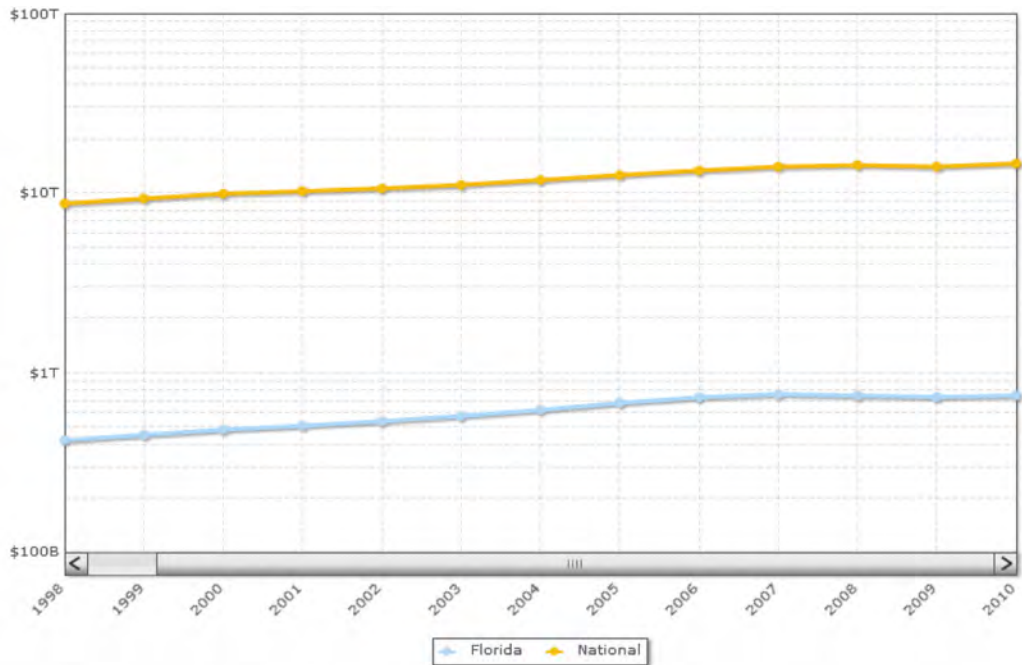
Similarly, a study found that the University of West Florida's Emerald Coast Campus generates \$40 million in goods and services in Okaloosa, Walton, Jackson, Bay, Holmes and Washington counties.

In addition to these economic benefits, the faculties at SUS institutions generate hundreds of thousands of grant and contract dollars annually, as illustrated in the following graph, which, in turn, generate additional jobs and wages.

Source: Florida Center for Fiscal and Economic Policy. *Florida's State University System: An Investment that Creates Jobs!* May 2010.

Gross Domestic Product

The gap between Florida and National GDP is fairly large, however both Florida and National GDPs are trending the same.

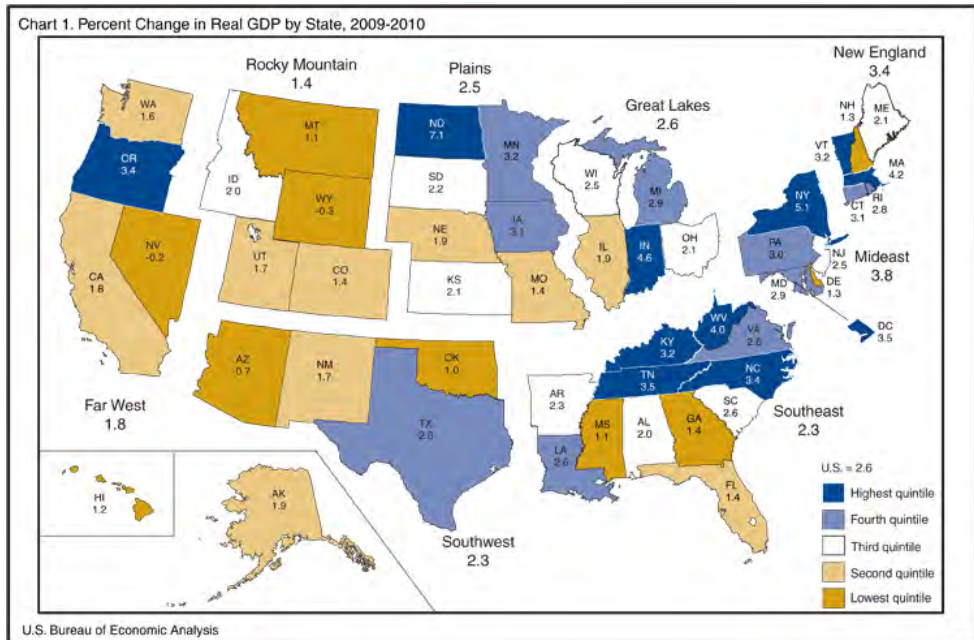


Values represent current dollars and are not adjusted for inflation.

Source: The Florida Scorecard. Web. June 2011.

Gross Domestic Product by State

In the Southeast, Florida is one of the lowest states at 1.4 behind Mississippi at 1.1.



U.S. Bureau of Economic Analysis

Source: Bureau of Economic Analysis. Gross Domestic Product by State. Web. June 2011.

RESEARCH

Research & Development Expenditures

Florida’s universities attracted nearly \$1.7 billion in research investment in 2009. In 2010, these schools held 614 revenue-generating licenses and were granted 250 patents.

Florida & U.S. Research & Development Expenditures (\$ millions)

Year	Florida	Annual Growth	United States	Annual Growth
2007	\$7,158	12.92%	\$359,739	7.26%
2006	\$6,339	1.85%	\$335,379	8.12%
2005	\$6,224	15.07%	\$310,194	9.44%
2004	\$5,409	4.58%	\$283,439	2.11%
2003	\$5,172	-5.93%	\$277,577	8.55%

Utility Patents

Over the five-year period 2005 to 2009, nearly 11,500 patents were issued to Florida residents, averaging 2,300 per year.

Utility Patents Issued to Florida and U.S. Residents

Florida’s share of US patents is incredibly low for the size of the state at only 2.7% in 2009.

Year	Florida	U.S.	Florida's Share of U.S. Patents
2009	2,197	82,382	2.7%
2008	2,046	77,502	2.6%
2007	2,358	79,526	3.0%
2006	2,601	89,823	2.9%
2005	2,291	74,637	3.1%
2004	2,456	84,270	2.9%

Source: Enterprise Florida. *Statewide Indicators*. Web. June 2011.

The Patent Scorecard 2010

Ranking & Movement			Universities	Technology Strength™		Current Impact™		Science Linkage™		Innovation Cycle Time™		Patents Granted	
2009		2010		2010	5-Year Average	2010	5-Year Average	2010	5-Year Average	2010	5-Year Average	2010	5-Year Average
1	↔	1	MIT/Mass Inst of Technology	304	259	1.73	1.81	26.73	24.77	10.6	9.6	176	143
2	↔	2	University of California	280	303	0.84	0.86	27.16	24.86	10.1	9.3	333	349
5	↔	3	University of Texas	155	112	1.14	1.06	39.11	35.09	11.1	10.0	136	106
3	▽	4	Stanford University	142	141	1.06	1.29	19.25	18.96	9.8	8.5	134	111
4	▽	5	California Inst of Technology	138	160	1.28	1.45	34.88	25.91	11.0	9.2	108	110
12	↔	6	Columbia University	101	56	1.51	0.98	45.12	30.35	9.3	8.1	67	57
6	▽	7	University of Wisconsin	95	82	0.71	0.84	14.84	16.91	9.6	8.4	134	99
20	↔	8	University of Central Florida	95	54	1.28	1.43	5.73	4.60	11.6	9.0	74	37
16	↔	9	University of Illinois	93	52	1.05	1.02	67.9	38.61	10.3	8.5	88	51
18	↔	10	University of Southern California	83	45	1.36	1.06	28.08	17.88	10.5	8.5	61	42

The 2010 Universities Patent Scorecard™ has ranked 132 of the top Universities according to the relative strengths of their patent portfolios as measured by Technology Strength™. The Patent Scorecard™ is based on data from July 2009 through June 2010 and provides an overall assessment of a university's recent intellectual property quality and quantity at a broad level. The Patent Board continues to evolve its indicators as they advance the importance of Intellectual Property as the New Asset Class.

Source: D'Amato, Tammy, et al. *The Patent Scorecard 2010—Universities. Intellectual Property Today.* September 2010.

Florida’s Positive Regional Advantage

Florida, for example, has the potential for job growth across several industries based on its broad economic base and positive long-term growth dynamics. The Sunshine State is currently battling back from one of its deepest recessions ever, and more time will be needed before strong growth returns. But strong growth will almost assuredly return, and when it does, there is apt to be a better mix of industries. Life science is one of the more promising sectors. In addition to the state’s compelling demographics, with its large retiree population, significant investments are being made throughout the state, including Scripps Research and the Max Planck Institute in Palm Beach County, the Torrey Pines Institute for Molecular Studies in Port St. Lucie and the development of Medical City in Orlando. The influx of new medical research facilities will help reinvigorate R&D job growth in Florida, helping further diversify the state’s economy.

Florida, which has more high-growth industries than any other state, would be in a stronger position if not for the weakened housing market, which has cut into worker mobility. The Sunshine State is making important enhancements to its university system to bring in more cutting-edge research, and this should pay off with an even better mix of high-growth industries in future years.

States With A Positive Regional Advantage in More Than 17 Industries			
State	Number of Industries	State	Number of Industries
Florida	22	Tennessee	19
Georgia	21	Alaska	18
North Carolina	21	Maryland	18
Arizona	20	Michigan	18
Mississippi	20	North Dakota	18
Texas	20	New Jersey	18
Utah	20	South Carolina	18
Virginia	20	New Hampshire	17
Alabama	19	Nevada	17
Idaho	19	New York	17

Source: Vitner, Mark, et al. *Employment Dynamics and State Competitiveness*. Wells Fargo. 2011.

Venture Capital

Venture Capital Investment (\$ millions)

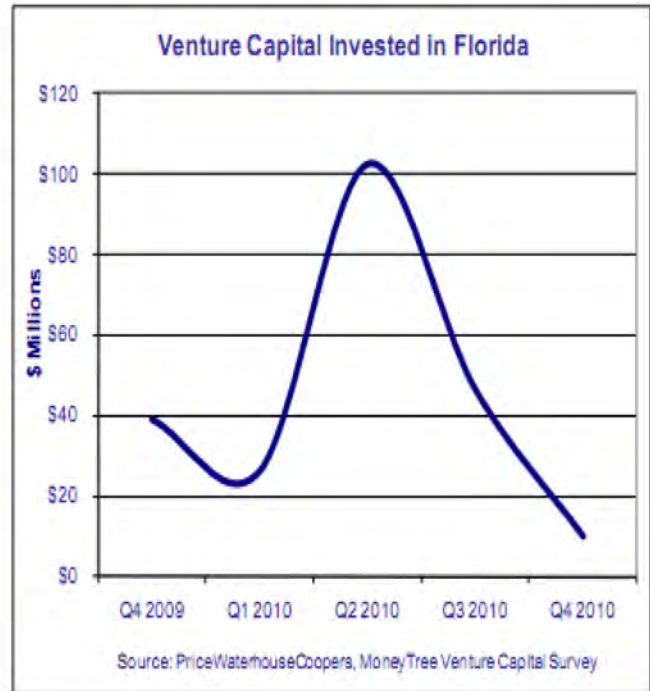
Year	Florida Venture Capital	Annual Change	U.S. Venture Capital	Annual Change
2010	\$185.7	-36.2%	\$21,823.4	19.4%
2009	\$291.2	26.4%	\$18,275.7	-35.0%
2008	\$230.4	-57.4%	\$28,105.3	-6.0%
2007	\$540.9	81.7%	\$29,900.9	15.0%
2006	\$297.7	-15.6%	\$26,010.0	15.4%
2005	\$352.7	-7.8%	\$22,535.0	3.9%

*Venture capital data extracted 2/11

Source: Enterprise Florida. *Statewide Indicators*. Web. June 2011.

Venture capital investment in Florida companies, which tends to fluctuate widely from one quarter to another, fell to \$10.1 million in Q4 2010 – 78.3% less than in Q3 2010, and 74.2% less than in Q4 2009. By comparison, total U.S. VC funding grew by 1.5% over the quarter, but dropped by 6.8% over the year.

Florida's share of overall U.S. VC investment totaled 0.2% in Q4 2010 – lower than its 0.9% share in Q3 2010, and also less than in its 0.7% share in Q4 2009. Florida's telecommunications industry attracted the most VC funding in Q4 2010, followed by investment in media and entertainment companies.



Source: Enterprise Florida. *Florida Economic Bulletin*. Winter 2011.

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STEM*Florida*, Inc.
Strategic Plan: *STEM Leadership for Florida*

Appendix C.

Session Notes Archive | Phase II: 2010 - 2011



STEM Florida BUSINESS STEERING COUNCIL Phase II Meeting 1 Session Notes

October 14, 2010 - 1 to 4 p.m. ET | Workforce Florida, Inc. Planning Room | Tallahassee, Florida

SUMMARY.

STEM Florida’s Business Steering Council (BSC) convened its first Phase II meeting on October 14, 2010 in Tallahassee, Florida from 1 to 4 p.m. ET at Workforce Florida, Inc.’s planning room, with additional members joining by phone. The launch meeting reviewed the due diligence set out through the months of work in Phase I, and set the stage for coming 200 days of work ahead in Phase II.

STEM Florida BSC Chair, Jimmie L. Davis, Jr., of The MITRE Corporation, welcomed participants and reaffirmed the need to hold an expedited session in order to move with a sense of urgency and establish rigor in new business standards as the team moves forward. Andra Cornelius, CEcD, Workforce Florida’s Vice President – Business and Workforce Development Opportunities, provided the team with a Situation Assessment. She also acknowledged the need for this expedited session, and reaffirmed numerous calls to transition the due diligence of Phase I into the second phase of STEM Florida’s work. Ms. Cornelius discussed the competitive Invitation to Negotiate (ITN) process through which Fairfield Index, Inc. was identified as the firm selected to manage the Phase II work. She noted the need for strong BSC engagement from Day 1 of this phase of work.

Don Upton, President of Fairfield Index, Inc., addressed the capacity and pedigree of the firm, spanning the competencies of Regional Collaboration and Economic Development; Rescue and Recovery of Failing Products, Services, and Companies; Strategy to Action; Reputation Management; Talent and Business-driven Education Reform; and Go-to-market. Mr. Upton also addressed the high volume of incoming inquiries and commentary since the selection of Fairfield Index and prior to the Phase II launch meeting.

The Team confronted conflicting messages among incoming inquiries, at times demanding extreme urgency and immediate action, and at times urging patience and waiting. The messages and implications of all this incoming point to the need for project discipline and rigor, one collaborative STEM movement for Florida, a clear decisive message, and movement during Phase II from tactical work to strategic action. The Team agreed that Fairfield Index must provide tools and support for BSC action and engagement throughout Phase II, but that the firm should not become the public “face” of STEM Florida.

The Fairfield Index team shared the STEM Florida BSC Timeline Development Document and elicited feedback from the Team. The timeline, included as an attachment to these Session Notes, is

MEETING 1 AGENDA

PHASE II: OUR INTENT, OUR RESOURCES, AND OUR AGENDA

Welcome

Jimmie L. Davis, Jr., *Chair, STEM Florida Business Steering Council*
The MITRE Corporation

Situation Assessment

Andra Cornelius, CEcD, *Vice President - Business and Workforce Development Opportunities, Workforce Florida, Inc.*

Introductions and Business of the Day

Don Upton, *President, Fairfield Index, Inc.*

Status Update and Discussion

Upton and Teresa Barber, *Manager - Regional Strategies & Transformation, Fairfield Index, Inc.*

- Item #1 - Milestone Calendar and BSC Schedule for the Next 10 Months
- Item #2 - Decisive Action and Statement of Intent
- Item #3 - Portal Due Diligence
- Item #4 - The Right Organization with the Right Strategy

Agenda Items for the Next BSC Session and Session Documentation

BSC Team

Adjourn

Davis

SUMMARY *(continued)*.

organized with Team efforts shown below a central date line, and public events and peripheral milestones noted above. The Team's timeline sets out dates for the next two upcoming BSC meetings, designates whether those discussions are face-to-face or virtual teleconference meetings, and includes placeholder markers for the additional meetings 3 through 8. The Timeline indicates four key strategic efforts beginning with the first two meetings: New Business Standards, Portal Vision and Capabilities, Strategic Plan, and Organizational Capacity/Not-for-profit Exploration.

The BSC reviewed the draft Statement of Intent, and provided suggestions for how to bring a defining designation to STEM*florida* front-and-center. The Team agreed that a clear and separate Mission Statement should be drafted and considered.

DRAFT STATEMENT OF INTENT.

Since its formation in 2009, STEM*florida* has reviewed the competitive priorities of employers who rely on science, technology, engineering, and math (STEM) to win and grow; and professionals who prepare Florida's talent for the future. Our role is clear as we transition from Phase 1 to Phase II of our work:

- Re-think STEM*florida* so that it is a flexible, dynamic, and responsive enterprise for the next generation
- Ensure that there is one STEM movement for the nation's fourth largest state by collaborating with and adding valuable resources to state-level initiatives
- Link our work directly to other Florida initiatives that measure and market our growing STEM role on the global stage
- Honor the feedback from Florida's diverse regions by positioning the best resources to link industries to the STEM movement
- Continue to re-state the ever-broader impact STEM talent has on companies of all sizes, in all sectors
- Provide business with efficient and clear pathways to communicate, intervene, and compete

Other states and regions around the globe have made STEM a table stake for jobs, capital, and innovation. In June of 2009, Workforce Florida, Inc. and Enterprise Florida, Inc. announced the creation of a statewide council to strengthen the STEM skills of Florida's students as a way to address the increasing demand for jobs

requiring strong foundations in these areas. STEM*florida*, funded by a \$580,000 grant from Workforce Florida, was launched to connect education, workforce, business, and economic development leaders to identify the opportunities for building and measuring the state's supply of workers with STEM literacy and skills, in fields that support innovation in existing and emerging industries.

STEM*florida* will now expedite Phase II. Our stakeholders are asking for a clear resource playbook and over the next 200 days we will deliver the following:

- A re-imagined portal
- The state-level enterprise plan for industry engagement
- Mapping and information flows to policy teams, integrated communications, and marketing programs
- A simple, credible framework to ensure competitive messages, alignment with business needs, and revelation of critical gaps

Florida's objectives remain unchanged:

- We must demonstrate global leadership in STEM talent development
- We must exemplify a critical part of the STEM movement in our work
- We must set the tone to encourage STEM literacy and activities in lifelong learning to move forward, share, and measure

DRAFT MISSION.

STEM*florida* works to ensure Florida's STEM literacy and leadership in STEM talent development by connecting business, industry, economic development, philanthropy, workforce, and education around the issues that impact and support innovation in Florida's existing and emerging industries, employers, and entrepreneurs.

KEY RESULTS.

- The BSC Team is calling for a new level of rigor and heightened business standards during Phase II throughout
- The BSC cannot act as a virtual team; true engagement, including through some face-to-face discussions, will be necessary
- Key partner milestone events and dates must be acknowledged
- The Team reached consensus that stakeholders and leaders want one STEM movement for Florida
- The BSC must act as ambassadors and information officers with partner initiatives and leaders
- The BSC must act as ambassadors and information officers with regions and key interests in target industry clusters
- Over the coming months, the team must re-imagine and begin mapping a new portal with multiple functions
- All partners are needed at the table
- Throughout Phase II, the Fairfield Index team will provide project management capacity to serve as the information axis for the BSC as the team moves toward creating the map for a new, living portal
- The BSC must prepare to answer critical questions during Phase II about how STEM*florida* moves forward with the right strategy, and as the right type of organization

NEXT STEPS.

The Phase II Meeting 1 adjourned with an understanding of new expectations for meetings and information-sharing, and a call for diligence in partner outreach. The Meeting 1 packet will be shared with BSC members and posted on STEMflorida.net for additional feedback.

BSC members are asked to provide feedback on the DRAFT Statement of Intent and DRAFT Mission, included in these Session Notes, **no later than October 29, 2010**. Comments and suggestions should be sent by email to Fairfield Index's *Manager - Regional Strategies & Transformation*, Teresa Barber, at tbarber@fairfieldindex.com.

The BSC Team reconvenes in Orlando for a face-to-face meeting from 9 a.m. to 11:30 a.m. ET on November 16, 2010. A Meeting 2 location will be set in the coming weeks, the team will be notified and details will post on STEMflorida.net. The BSC will discuss

work on a strategic plan, as well as questions of organizational capacity during that second meeting. Meeting 3 is scheduled for December 14, 2010.

The Team must reach out to all partners; and must bring critical initiatives, news and information, dates, and events back to the attention of the BSC Team through the project management competencies of Fairfield Index by email to tbarber@fairfieldindex.com.

STEM*florida* BUSINESS STEERING COUNCIL

*Jimmie L. Davis, Jr. Chair -
The MITRE Corporation*

AppRiver

Ditek Corp.

Enterprise Florida, Inc.

Florida Chamber Foundation

Florida Chamber of Commerce

Florida Department of Education

Gulf Power Company

Harris Corporation

IBM

Institute for Human and Machine Cognition

Jabil Circuit

Jabil University

Lockheed Martin Simulation Training and Support

Mayo Clinic Jacksonville

Mitsubishi Power Systems, Inc.

PCS Phosphate White Springs

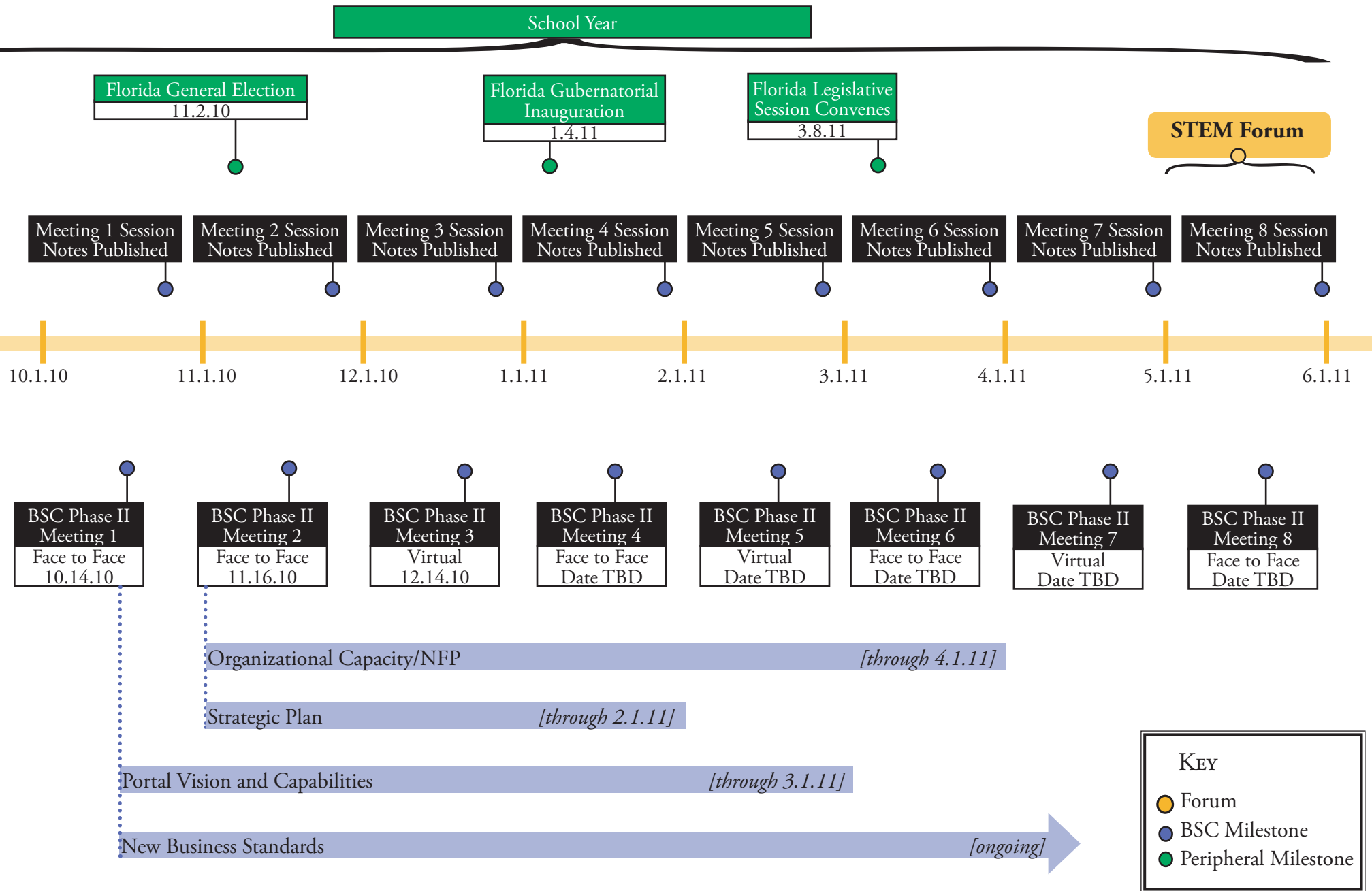
Scripps Florida

Space Florida, Inc.

SRI

The Florida Council of 100

Workforce Florida, Inc.





STEM Florida BUSINESS STEERING COUNCIL Phase II Meeting 2 Session Notes

November 16, 2010 - 9 a.m. to 11:30 a.m. ET | Embassy Suites Lake Buena Vista | Orlando, Florida

SUMMARY OF ACTION ITEMS AND OUTCOMES.

STEM Florida's Business Steering Council (BSC) convened its second Phase II meeting on November 16, 2010 in Orlando, Florida from 9 to 11:30 a.m. ET at Embassy Suites Lake Buena Vista, with additional members joining by phone. Below are outcomes from this workshop discussion.

1. Use the next four weeks to establish process and protocol to ensure one STEM movement for Florida with proper allocation of work among key organizations - Volunteer-led outreach to FloridaSTEM will require several BSC members
2. Develop and share draft text to support and encourage one STEM movement
3. Implement final updates to MISSION of STEM Florida and confirm Statement of Intent
4. Implement STEM Florida formative toolkit in existing portal
5. Utilize Enterprise Goals Model to build strategic plan
6. Confirm project synergies and partners in Workforce Florida, Inc. (WFI) strategic plan, *Creating the Strategy for Today's Needs and Tomorrow's Talent*
7. Prepare for industry outreach by Council volunteer leaders
8. Use existing portal for formative process/team room

The STEM Florida BSC's second Phase II meeting included 2^{1/2} hours of work hosted by BSC Chair, Jimmie L. Davis, Jr., of The MITRE Corporation. The discussion focused primarily on steps required to ensure one transparent STEM movement for Florida, and the business-driven responsibilities of the BSC. STEM Florida remains on a fast track in the development of: a strategic plan; a portal resource; an independent, operational organization; a globally-credible expression of what success looks like; and sound governance and collaborative resources.

MEETING 2 AGENDA STEM Florida BSC PHASE II

Welcome

Jimmie L. Davis, Jr., *Chair*, STEM Florida
Business Steering Council
The MITRE Corporation

Situation Assessment and Business of the Day

Don Upton, *President*, Fairfield Index, Inc.

Status Update and Discussion

BSC Team and Upton

- Item #1 - Milestone Calendar and Use of the ToolKit
- Item #2 - Setting the Right Strategy; Mission and Statement of Intent
- Item #3 - The Right Organization
- Item #4 - The Work of the BSC Team: Outreach and Protocols
- Item #5 - Portal Due Diligence: Updates and the Role of a Transformation Site

Agenda Items for the Next BSC Session and Session Documentation

BSC Team

Adjourn

Davis

ITEM #1 - MILESTONE CALENDAR AND USE OF THE TOOLKIT.

A hard copy version of the portal-based ToolKit was provided to BSC members, and mailed to members unable to attend in person. Updates to the ToolKit e-version will be managed at the portal site. In its current configuration, the portal site is suitable for information management, document review, and milestone calendar management. The ToolKit will be a project management and reference tool that includes:

- basic templates (Data Request; Contact/Engagement Tracking Sheet)
- guidance for field outreach to the regions and industry clusters the team needs to engage
- warehouse space to store Session Notes, Agendas, research, and other pertinent items
- boilerplate reference materials with the competitive Phase II messages the BSC Team needs as they reach out to partners
- storage points for strategic planning notes, worksheets, and materials

ITEM #2 - THE RIGHT STRATEGY; MISSION AND STATEMENT OF INTENT.

Council members asked for a comprehensive statement that summarizes the Mission. The following, simple statement is based on meeting notes:

→ **Business-driven STEM for STEM Industries**

Mission and Statement of Intent information was shared during the interim between Council meetings. As a result, the Mission was updated and provided with one final edit. The Mission reads, in full:

MISSION.

STEM*florida* drives Florida's leadership and proficiency in STEM talent development by connecting business, industry, economic development, philanthropy, workforce, and education around the issues that impact and support innovation in Florida's existing and emerging industries, employers, and entrepreneurs.

The Statement of Intent was also updated during the interim and required only one edit during the meeting. The first bullet in the Intent now reads:

- Advance STEM*florida* so that it is a flexible, dynamic, and responsive enterprise for the next generation

It is important to note that three elements of the Intent were pertinent to the concerns about ensuring one STEM movement and outstanding allocation of work among STEM organizations:

- Ensure that there is one STEM movement for the nation's fourth largest state by collaborating with and adding valuable resources to state-level initiatives
- Link our work directly to other Florida initiatives that measure and market our growth role on the global STEM stage
- Provide business with efficient and clear pathways to communicate, engage, and compare

ITEM #3 - THE RIGHT ORGANIZATION.

An independent, flexible STEM*florida* will be formed in response to and in support of the strategic plan. Council interest in participating in one STEM movement and likely requirements for MOAs and other formal, aligning documents may require expediting organizational modeling and incorporating steps.

ITEM #4 - THE WORK OF THE BSC TEAM: OUTREACH AND PROTOCOLS.

Council members had two, overlapping concerns: scheduling conflicts with other organizations involved in the STEM movement, specifically FloridaSTEM; and ensuring there is clarity and alignment across Florida on STEM initiatives. In the coming four weeks, Council Chair Davis will form a small team of volunteer leaders to meet with a peer group at FloridaSTEM in order to deal with both matters.

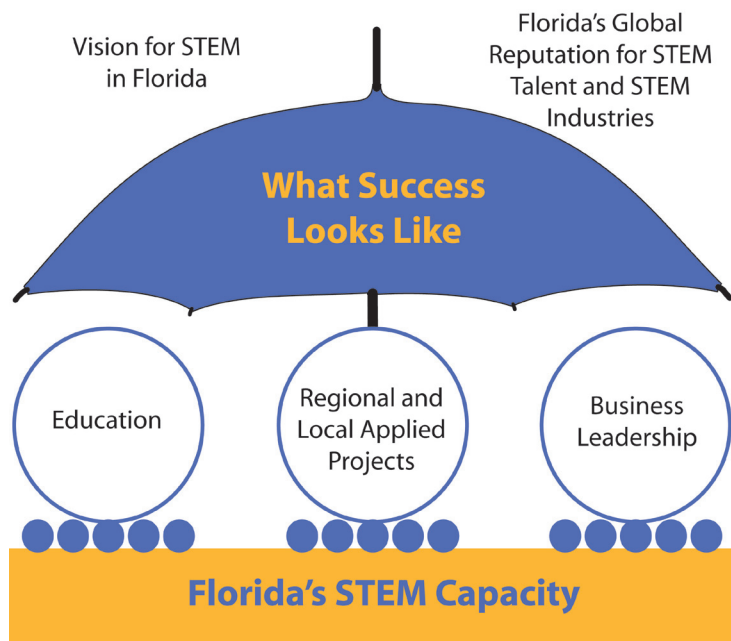
**ITEM #4 - THE WORK OF THE BSC TEAM:
OUTREACH AND PROTOCOLS (continued).**

The Council sees one STEM movement as including three “legs”:

- Education, Pedagogy, and Educational Research
- Programs, Projects, and Organizations Applying Ideas and Resources at the Regional to Local Level
- Business-driven/Demand Side; Employers

Philanthropic interests were represented at the Council meeting, including the Florida Gulf Coast Community Foundation. It was clear that investments in STEM activities require a uniform approach and leveraging all capacities to common ends and outcomes.

The following “sketch” represents the Council’s concept of a statewide movement.



The Council Chair’s outreach should, at minimum, ensure transparency and balance of schedules, access to strategies and timelines, and proper staging of complementary activities. He will ask for ideas and support on the best pathways to a unified strategy and DIVISION OF LABOR among key organizations in the movement. Prior to the next Council session, volunteers and the consulting team will share hypothetical situations and responding documents, from draft MOAs to link organizations involved in the STEM movement to executive order(s).

**ITEM #5 - PORTAL DUE DILIGENCE:
UPDATES ON THE ROLE OF A
TRANSFORMATION SITE.**

The Council is focused on identifying what success looks like on a global stage. This work, combined with strategic and organizational planning, will shape the map for and appearance of a new portal.

OTHER ITEMS.

The Council was briefed on how STEMflorida should be in a collaborative relationship with other Workforce Florida projects, using them as resources for research, trends, and communications. They include:

- B** Customer Satisfaction Index for Target Index Clusters and Infrastructure Innovators
- C** Integrated Communications
- E** Excellence and Alignment in Workforce Readiness Programs and Initiatives
- F** Resources for Management of Federal and State Policy Issues and Communicating Needs and Successes of Plan in Policy Community
- H** Convene and Support Talent Supply Chain Team for High Performance Expectations in Strategic Plan
- I** STEM Leadership for Florida
- J** Launch and Sustain the Best Informed Target Industry Cluster-Specific Task Forces
- K** Evergreen Situation Assessment for Board
- *** State-led Regional Workforce / Economic Development Capacity-Building

AGENDA ITEMS FOR THE NEXT BSC SESSION

The Council was briefed on the Bill and Melinda Gates Foundation STEHM *Learn & Earn* Design Challenge Opportunity for Florida. In support of the Council's call for one STEM movement, the lead Florida facilitator of *Learn & Earn* noted a recent call for a statewide blueprint to demonstrate capacity and impact. The *Learn & Earn* briefing document will be posted in the portal, and the Council asked that the work be elevated through STEM*florida* to other parts of Workforce Florida, especially the appropriate Council(s) and leaders involved in Employ Florida Banner Centers.

Council members asked for the following elements in the next meeting:

1. Chair's report on calls and meetings with FloridaSTEM, next best steps, and approaches to division of labor among leadership organizations
2. Information on how STEM*florida* and the STEM movement could relate to an emerging Talent Supply Chain Team
3. Review and discussion of draft documents
4. Volunteer assignments for industry outreach
5. Update on strategic planning

The BSC Team reconvenes by teleconference on December 14, 2010 for a virtual meeting from 1 to 3 p.m. ET. Conference line and other meeting information will be provided to the BSC team in the coming weeks. Meeting details will also post on to STEMflorida.net. In the interim, BSC team and partner updates will continue to post on STEMflorida.net, and questions and comments should be sent by email to tbarber@fairfieldindex.com.

NEXT MEETING.

STEM*florida* Business Steering Council
Phase II **Meeting 3**

December 14, 2010 | 1 to 3 p.m. ET

Virtual - Teleconference information to be provided

STEM*florida* BUSINESS STEERING COUNCIL

*Jimmie L. Davis, Jr. Chair -
The MITRE Corporation*

AppRiver

Ditek Corp.

Enterprise Florida, Inc.

Florida Chamber Foundation

Florida Chamber of Commerce

Florida Department of Education

Gulf Power Company

Harris Corporation

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Institute for Human and Machine Cognition

Jabil

Lockheed Martin Simulation Training and Support

Mayo Clinic Jacksonville

Mitsubishi Power Systems, Inc.

PCS Phosphate White Springs

Scripps Florida

Space Florida, Inc.

SRI

The Florida Council of 100

Workforce Florida, Inc.



STEMflorida BUSINESS STEERING COUNCIL Phase II Meeting 3 Session Notes

December 14, 2010 - 1 p.m. to 3 p.m. ET | Virtual Teleconference | Orlando, Florida

SUMMARY OF ACTION ITEMS AND OUTCOMES.

STEMflorida's Business Steering Council (BSC) convened by webinar-enabled teleconference for Meeting 3 of Phase II on December 14 from 1 to 3 p.m. ET. The outcomes of the workshop session include the following.

1. STEMflorida will continue to utilize the Enterprise Goals Model in its strategic planning process, and understands that partner initiatives within Florida's STEM movement are reliant upon the success and sustainability of STEMflorida.
2. STEMflorida remains a priority for Florida's emerging Talent Supply Chain Team, and the BSC must remain in a state of readiness to provide updates as the TSCT moves into a formative state.
3. The BSC shifts into a higher gear of Council work assignments focused on moving the business of the enterprise forward toward outreach, regional and industry-driven engagement, and resolve on specific strategic planning issues.
4. A state-wide and global scan of potential indicators for STEM success is being conducted on behalf of STEMflorida, and BSC members and partners will continue to provide input and share recommended areas for consideration.
5. BSC members committed to providing recommendations and edits on the draft Goal language for STEMflorida.
6. The team confirmed use of online tools available to assist with industry outreach, and use of Employ Florida Banner Centers as primary pathways for outreach to key industry leaders.
7. Consideration of philanthropy - including educational and corporate strategic philanthropy - is and must remain inherent in STEMflorida.

The conversation launched with a welcome from BSC Chair Jimmie L. Davis, Jr. of the MITRE Corporation. Chair Davis introduced the Florida STEM Strategic Plan Task Force's Dr. Mabry Gaboardi (Learning Systems Institute, Florida State University). Chair Davis noted multiple recent conversations with Dr. Gaboardi and the leadership of the Florida STEM team.

Dr. Gaboardi introduced the Florida STEM Strategic Plan Task Force, noting that much of the STEMflorida Phase I due diligence helped inform the effort and indicating areas of alignment. She indicated that the Task Force would dissolve after conclusion of its

MEETING 3 AGENDA STEMflorida BSC PHASE II

Welcome

Jimmie L. Davis, Jr., *Chair*, STEMflorida
Business Steering Council
The MITRE Corporation

Situation Assessment and Business of the Day

Don Upton, *President*, Fairfield Index, Inc.

Chair's Report

Davis

- Discussions with Florida STEM Strategic Plan Task Force; Next Best Steps; and Division of Labor among Leadership Organizations

Status Update and Discussion

BSC Team and Upton

- Item #1 - Relating STEMflorida and our STEM movement to an emerging Talent Supply Chain Team
- Item #2 - Draft Document Review and Discussion
- Item #3 - The Work of the BSC Team: Volunteer Assignments for Industry Outreach
- Item #4 - Update on Strategic Planning

Agenda Items for the Next BSC Session and Session Documentation

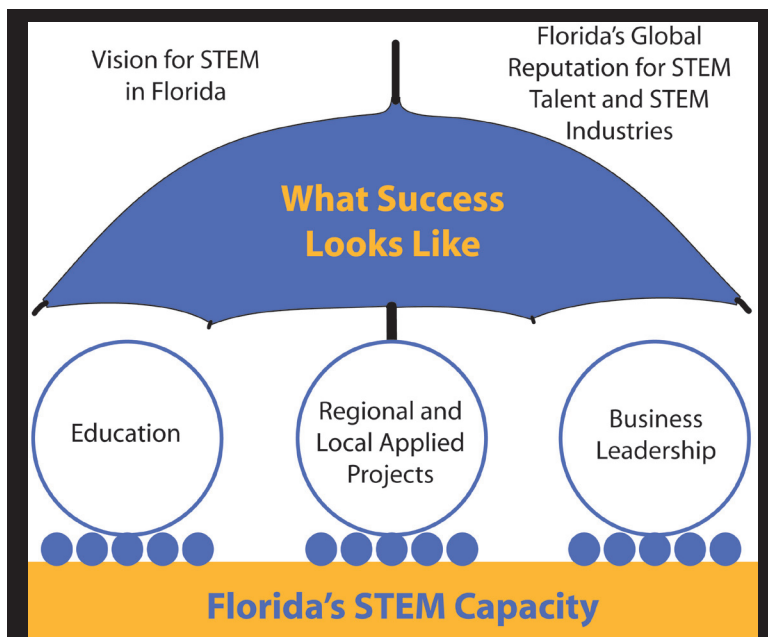
BSC Team

Adjourn

Davis

work in February 2011, and that BSC input on Goal 3 of the Task Force’s draft strategic plan was desired and needed. The draft language of Goal 3 is: *Create a statewide sustainable STEM leadership organization aligning existing and emerging industry, education, philanthropy, policymakers, and parents to ensure business-led market-relevant STEM initiatives to represent Florida as one voice in meeting local, state and global STEM demands.*

Chair Davis recalled the umbrella perspective discussed during Meeting 2, and reiterated the importance of one STEM movement for Florida. A series of conversations with Dr. Laura Lang, Director of Learning Systems Institute at Florida State University, Dr. Gaboardi, and members of the STEMflorida leadership team, between Meetings 2 and 3, emphasized areas of alignment and needs which had emerged through those discussions. Chair Davis emphasized the need for STEMflorida to serve as the umbrella for the state’s efforts, integrating Florida’s STEM movement.



STEMflorida is responsible for articulating what success looks like on the global stage. This is a primary leadership role of the BSC in ensuring one STEM movement in Florida.

The Council sees one STEM movement as including three “pillars”:

- Business-driven/Demand Side; Employers; Corporate and Strategic Philanthropy
- Programs, Projects, and Organizations Applying Ideas and Resources at the Regional to Local Level; Regional/Local Applied Philanthropy
- Education, Pedagogy, and Educational Research; Educational Philanthropy

Additional conversation ensued over the need to ensure that philanthropy remain a central focus of STEMflorida. Philanthropy was highlighted as a key arm of partnership to ensure sustainable success. The importance of educational and regional/local applied philanthropies was discussed at length, especially regarding best practices and sustainability. The unique nature of corporate strategic philanthropies was also raised. These potential partners require should not be ignored and the BSC team and STEMflorida leadership must remain vigilant not just about ensuring that industry leadership/demand-side voices are at the table, but also that the separate and unique pathways of corporate philanthropy be explored.

ITEM #1 - RELATING STEMflorida AND OUR STEM MOVEMENT TO AN EMERGING TALENT SUPPLY CHAIN TEAM.

The BSC Team discussed the pending emergence of Florida’s Talent Supply Chain Team (TSCT), and learned that STEMflorida remains a priority, starting-gate issue and potential partner for the TSCT.

The TSCT will be a cross-cutting team of collaborative partners guided by the definition of Talent Supply Chain Team adopted through the Workforce Florida Strategic Plan. Talent Supply Chain Team is a Strategic Goal of Workforce Florida, and is noted as “Aligned, Responsive and Jointly Engaged Talent Supply Chain Team.” A top Achievement set forth for Workforce Florida through this Strategic Goal is to convene and support this team around Florida’s Shared Scorecard with a shared vision.

Talent Supply Chain is defined in Workforce Florida’s five-year strategic plan as:

Florida’s Talent Supply Chain is a system of resources and infrastructure that prepares people, on a lifelong basis, to advance the needs of enterprises of all scales, sizes and sectors. Like other supply chains, excellence is achieved through customer satisfaction, on-time delivery, reliability, foresight and seamless coordination and process improvement among and between all participants in the chain. In Florida, people are participant-owners in the chain, by exerting their own transformative abilities to learn, apply knowledge and create wealth.

ITEM #2 - DRAFT DOCUMENT REVIEW AND DISCUSSION.

The Council reviewed the framework for strategic planning, using the Enterprise Goals Model; and focused especially on review of the language of goals. The team agreed to provide edits and feedback through a work assignment following adjournment of Meeting 3.

The team also reviewed a draft of the graphic model and an Indicator Scratchpad used in the development process to identify how Florida may best gauge “what success looks like” for STEM proficiency in talent development. The graphic model will serve as a highly visible snapshot of Florida’s status in key areas that indicate levels of proficiency in STEM talent development. The Scratchpad document is a developmental item built on scans of best practices from other states and competing regions around the globe. It was also informed by leadership interviews with STEMflorida’s partners and BSC members. Council members responded positively to the draft graphic model, noting that the beakers “made sense”; they asked for clarification on how the categories may be identified.

BSC team members learned that an ongoing inquiry was underway, through the Indicator Scan Interview process, into potential indicators to inform the Dynamic Scorecard for STEMflorida, and discussed the pathways to provide input in the process. The team agreed to submit input on potential indicators and best practices through a work assignment following adjournment of Meeting 3.

The questions being posed through the Indicator Scan Interview, and also posted in the Forum pages of STEMflorida.net, include:

- What 3 to 6 indicators would you look for to gauge the health of STEM in Florida?
- Do you see preferred value in measuring incremental (Florida’s year-to-year) progress versus benchmarking against national or global competitors in STEM?

ITEM #3 - THE WORK OF THE BSC TEAM: VOLUNTEER ASSIGNMENTS FOR INDUSTRY OUTREACH.

The BSC Team discussed the suggested pathways for industry outreach, and confirmed the potential of Employ Florida Banner Centers as entry points. Council members agreed to respond to a work assignment following adjournment of the meeting to

identify which industries they would prefer to participate in outreach in, and which they would like to take lead roles in. The team also confirmed applicability of the online tools (including the BSC ToolKit, and templates for Data Requests and Contact tracking) for this line of work.

ITEM #4 - UPDATE ON STRATEGIC PLANNING.

The BSC Team reviewed the Enterprise Goals Model framework in context of STEMflorida, and the team’s Mission and Statement of Intent. Chair Davis noted the importance of STEMflorida developing a successful strategic plan for Florida’s STEM movement. The team pointed again to the expectation of the Florida STEM Strategic Plan Task Force that STEMflorida would direct input into Goal 3 (*Sustainable Infrastructure*) of their draft plan.

The team discussed the urgency of providing feedback on the language of draft goals for STEMflorida, and agreed to respond to a post-meeting work assignment so that Meeting 4 could commence in January 2011 with clarity on goals and a strong foothold on how to populate the remainder of the Enterprise Goals Model framework based on that consensus.

WORK ASSIGNMENTS.

The Council was tasked with two separate work assignments following the adjournment of Meeting 3. The first assignment included a request for feedback on:

- the Draft Strategic Goals language for STEMflorida;
- comments for the Indicator Scan Interview and diagnostic work, as well as volunteers for participation; and
- volunteers for team leadership roles for industry outreach, and preferences on industry outreach assignments.

The first Assignment Packet (BSC Meeting 3 Assignment 1) is included as an attachment to these Session Notes.

The second BSC assignment consisted of a request for feedback and edits/recommendations for the language of the Florida STEM Strategic Plan Task Force’s Goal 3. A STEMflorida BSC working group will convene prior to Meeting 4, and with the resource and project management support of Fairfield Index, will provide a single document capturing suggestions and edits to Dr. Gaboardi.

AGENDA ITEMS FOR THE NEXT BSC SESSION

The Council's agenda for the next Session will include the following items:

1. Goal 3 Working Group - report on outcomes from the round of discussions and editing on Florida STEM Strategic Plan Task Force's Goal 3 language which was shared with STEM*florida* and the BSC
2. Working Documents Review and Discussion - Indicator Scan Results and Draft Scorecard; Web Portal Updates
3. Industry Ambassadors - Assignments and Team Outreach; Resources
4. Regional Pathways Update
5. Update on Strategic Planning - Final Goals Language

The BSC Team reconvenes in person on January 13, 2010 at Workforce Florida's large conference room in Tallahassee from 1 to 3:30 p.m. ET. In-person participation is strongly encouraged for BSC members, but conference line and other meeting information will be provided to the BSC team in the coming weeks. Meeting details will also post on to STEMflorida.net.

In the interim, BSC team and partner updates will continue to post on STEMflorida.net, and questions and comments should be sent by email to tbarber@fairfieldindex.com. Council members and others interested in providing recommendations for the Indicator Scan Interview and diagnostic work should email tbarber@fairfieldindex.com or cmanning@fairfieldindex.com.

NEXT MEETING.

STEM*florida* Business Steering Council
Phase II **Meeting 4**
January 13, 2010 | 1 to 3:30 p.m. ET
Tallahassee, Florida - Workforce Florida, Inc.

STEM*florida* BUSINESS STEERING COUNCIL

*Jimmie L. Davis, Jr. Chair -
The MITRE Corporation*

AppRiver

Carvajal Consulting and Management

Ditek Corp.

Enterprise Florida, Inc.

Florida Chamber Foundation

Florida Chamber of Commerce

Florida Department of Education

Gulf Power Company

Harris Corporation

IBM

Institute for Human and Machine Cognition

Jabil

Lockheed Martin Simulation Training and Support

Mayo Clinic Jacksonville

Mitsubishi Power Systems, Inc.

PCS Phosphate White Springs

Scripps Florida

Space Florida, Inc.

SRI

The Florida Council of 100

Workforce Florida, Inc.



Sent December 14, 2010 – 5:30 p.m. ET

STEMflorida Phase II Meeting 3 – Assignment 1

Good afternoon, STEMflorida BSC Team.

Thank you for participating in a productive call today. We were fortunate to have strong BSC and Partner participation, and to have Dr. Mabry Gaboardi (Learning Systems Institute – Florida State University; Florida STEM Strategic Plan Task Force) provide us with an overview of the Goal 3 language share with us earlier today.

As we discussed on the call, we need your input on a few items **no later than Wednesday, December 22 at 6 p.m. ET.**

The attached Work Packet includes supporting reference materials to help you consider and respond to these assignments. The Work Packet PDF is electronically bookmarked for easier navigation.

I. Draft Goals

These goals were shared previously at Meetings 2 and 3, and had been developed based on your previous input, the due diligence of Phase I, and global best practices.

- a. **Please provide your feedback on the goals language shown on this page, or confirm your comfort with this item.**

II. Indicator Worksheet and Scratchpad

This Worksheet is provided to serve only as a jump-starter on possible categories, indicators, and gauges. It was populated based on running research conducted through a national and global scan of STEM indicators, and through ongoing interviews with Florida leadership organizations and partners, and BSC members.

- a. **Provide any recommendations for categories, and for specific indicators which will help gauge what success looks like.**
- b. **Email tbarber@fairfieldindex.com if you would like to participate in the Indicator Scan Interview, or would like to suggest a participant to our team.**

III. Industry Outreach Preferences

- a. **Please let us know if you would feel confident taking a lead role with a particular Industry for this outreach/sharing effort.**
- b. **Identify which 2 - 3 Industries you prefer to participate in outreach efforts on as a team member. To help you consider the pathways you may take for some of these important outreach conversations, an excerpt from your ToolKit is included in this PDF (Item III.a.).**

Finally, look for updates on many of these items in the coming weeks, and for a notice of the date and time for our face-to-face Meeting 4 in January.

Thank you!

Business of the Enterprise

Credible,
**Globally
Relevant Model**
and Messaging

Clear and
Meaningful
**Pathways for
Business
Engagement
and Learning**

**Knowledge
Delivery -**
Pathways for
Business
Engagement and
Learning

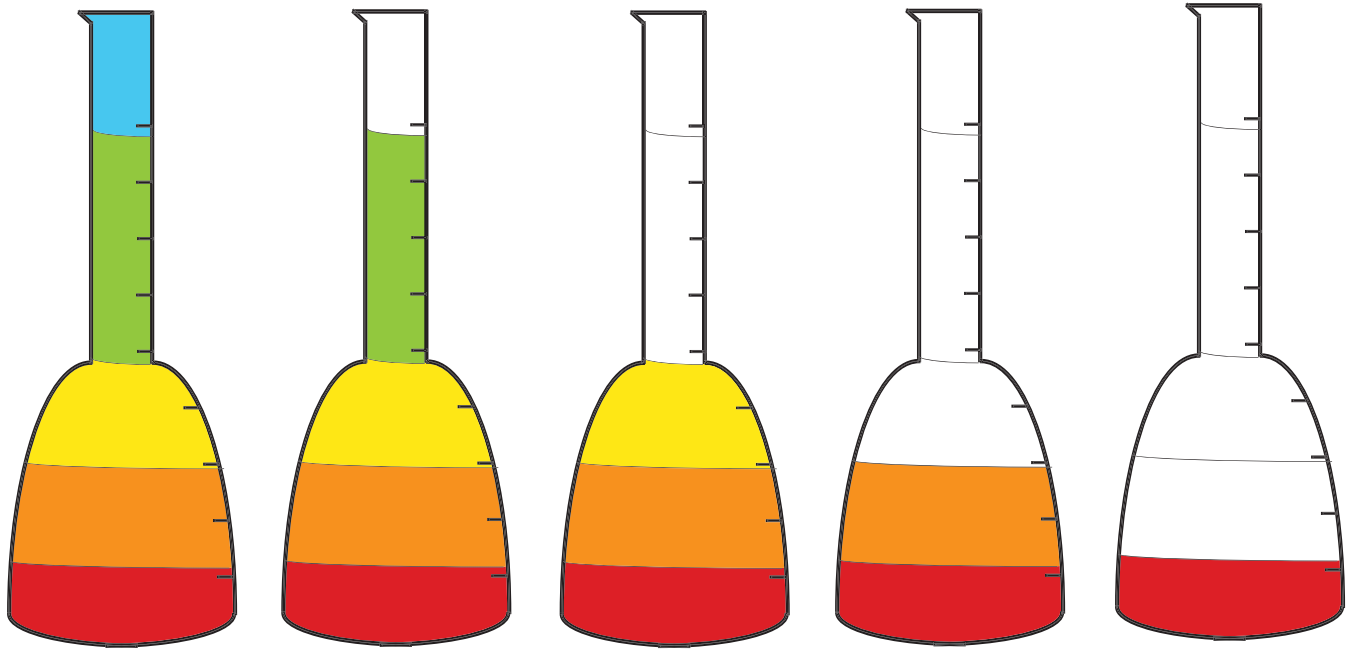
Responsive and
Productive
Relationship with
**Florida's Talent
Supply Chain
Team**

Best Evidence to
**Support the
Demand-
Driven Model**

QUESTION:

How do we gauge the health and progress of Florida's proficiency in STEM talent development?

GRAPHIC MODEL:



Indicator 1:
Extreme Proficiency

Indicator 2:
Proficiency

Indicator 3:
Qualified

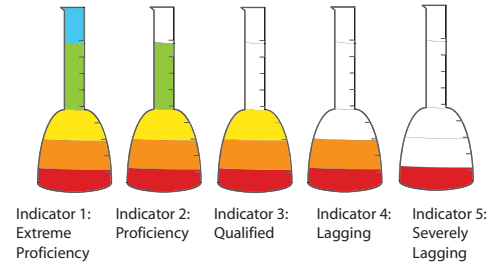
Indicator 4:
Lagging

Indicator 5:
Severely Lagging

INDICATOR SCRATCHPAD:

Two rows of six light blue ovals, each containing three horizontal lines for writing.

QUESTION: *How do we gauge the health and progress of Florida's proficiency in STEM talent development?*



INDICATOR SCRATCHPAD:

Comparison to Other States	Linkage to Business Initiatives	Minorities/Minority Involvement (especially women)	STEM Career Clusters	Educator Success and Certification	Environmental Linkage
Experiential Learning vs. Textbook Learning	Economic Development	Scholarships	Parental Involvement	Student/Career Awareness and Interest	New Job Skills/Readiness
Number of Internship Programs	FCAT Scores	Number of STEM Workders Retrained/Recertified into new STEM Fields	Regional Participation	Patent Scorecard Rankings	Business/Industry Engagement
STEM Degrees Conferred	STEM Certificates Granted	SBIR/STTR Activity	STEM Workforce Retention	Participation by Targeted Industry Clusters	STEM Presence in Strategies of State Economic/Workforce Development Partners
Growth/Emerging Industries	Science Fair Participation	General Funding Received	Achievement Gap Reduction	Global Citizenship	Early Childhood Programs, Participation
Career/College Readiness	STEM Teacher Excellence	Reduction of Math Deficiencies	SAT Scores	Green Innovations	Workforce
STEM College Readiness	State Funding/Involvement	Creation of STEM-focused Schools	Stakeholder Engagement	Student STEM Extra-curricular Involvement	Professional Development Programs

Industry Pathways

Your ToolKit provides initial ideas for contact pathways with the following target industries:

- Advanced Manufacturing
- Agriscience
- Aviation/Aerospace
- Clean Energy
- Construction
- Creative Industries
- Energy
- Global Logistics and Distribution
- Healthcare
- Homeland Security and Defense
- Information Technology
- Life Sciences
- Professional/Financial Services
- Water Resources

III. a. Industry Pathways.

Throughout Phase II, the BSC will assist in identifying point contacts, channels for information-sharing, competitive messaging, and alignment opportunities for industry leaders and associations with the goal of raising awareness of STEM*Florida's* Statement of Intent and Mission, and helping to ensure strong and targeted business engagement in STEM*Florida* opportunities. BSC members may consider a number of pathways for engagement, including state and national partners, and BSC-identified organic points of contact and alignment. The Employ Florida Banner Center Advisory Councils throughout Florida present unique opportunities for targeted industry outreach. For many of the Employ Florida Banner Centers, in-depth due diligence has been conducted on industry associations and pathways - from local to global. Among emerging Banner Centers, additional opportunities may exist where this due diligence is currently underway or still fresh, and the BSC members may find fresh opportunities for alignment “out of the gate” for these industry-driven centers of excellence in talent development. There may also be opportunities to crosswalk engagement through Workforce Florida’s Target Industry Cluster Task Forces, with the launch of the two Year One task forces of *Aviation & Aerospace* and *Clean Technology* occurring during the first period of Phase II.

The following lists of targets include starting gate industry pathways for outreach and engagement, but should in no way be considered a closed list. Innovations and additional pathways must continuously be identified and refreshed throughout Phase II with continuous feedback from the BSC team.

Initial ideas for contact pathways are provided for the following target industries:

- Advanced Manufacturing
- Agriscience
- Aviation/Aerospace
- Clean Energy
- Construction
- Creative Industries
- Energy
- Global Logistics and Distribution
- Homeland Security and Defense
- Information Technology
- Life Sciences
- Professional/Financial Services
- Tourism/Travel
- Water Resources

III. a. Industry Pathways.

Advanced Manufacturing

- Bay Area Manufacturers Association
- Capitol Region Manufacturers
- First Coast Manufacturers Association
- Manufacturers Association of Central Florida
- Manufacturers Association of Florida
- Marion Regional Manufacturers Association
- National Association of Manufacturing
- Polk Manufacturers Association
- Sarasota Manatee Manufacturers Association
- Society of Manufacturing Engineers
- South Florida Manufacturers Association
- Southwest Regional Manufacturers Association
- Volusia Manufacturers Association

Agriscience

- Florida Agricultural Marketing Association
- Florida Department of Agriculture
- Florida Farm Bureau
- Florida Fruit and Vegetable Association
- Florida Future Farmers America Association
- Florida Organic Growers Association
- Florida Tropical Fish Farm Association
- University of Florida Institute of Food and Agricultural Science

III. a. Industry Pathways. *(continued)*

Aviation/Aerospace

- Aviation Center of Excellence at Florida State College at Jacksonville
- Broward Community College
- Embry Riddle Aeronautical University
- Florida Airports Council
- Florida Aviation and Aerospace Alliance
- George T. Baker Aviation High School
- Greater Miami Aviation Association
- Lively Technical Center
- Miami Maintenance Management Council
- NASA
- SpaceTec
- Space Florida

Clean Energy

- American Solar Energy Society
- Employ Florida Banner Center for Advanced Manufacturing
- Energy Conservation Services of North Florida
- Progress Energy
- Florida Alliance for Renewable Energy
- Florida Power and Light Company
- Florida Solar Energy Center
- Florida Solar Energy Industry Association
- Florida Solar Energy Research and Education Foundation
- Interstate Renewable Energy Council

Construction

- Associated Builders and Contractors
- Builders Association of North Central Florida
- DBPR Professions
- Florida Home Builders Association
- Florida Masonry Apprentice and Education Foundation
- Future Builders of America
- National Center for Construction Education and Research
- Prison Rehabilitative Industries and Diversified Enterprises

III. a. Industry Pathways. *(continued)*

Creative Industries

- American Institute of Architects
- Association of Crafts and Creative Industries
- Association of Independent Commercial Producers
- Digital Media Alliance Florida
- Florida Association of the American Institute of Architects
- Florida Film Commission
- International Digital Media and Arts Association
- Metro Orlando Film and Entertainment Commission

Energy

- Florida Municipal Electric Association
- Florida Power and Light Company
- Gulf Power
- IBEW
- Jacksonville Electric Authority
- Lakeland Electric
- NextEra Energy, Inc.
- Silver Springs Network
- SunPower

III. a. Industry Pathways. *(continued)*

Global Logistics and Distribution

- American Association of Exporters and Importers
- American Association of Port Authorities
- American Institute for Shippers' Associations
- American Society of Transportation and Logistics
- American Trucking Association
- Association for Operations Management
- Association of American Railroads
- Cargo Airline Association
- Council of Supply Chain Management Professionals
- Florida Trucking Association
- Institute for Supply Management
- Institute of Logistical Management
- Institute of Packaging Professionals
- International Society of Logistics
- International Warehouse Logistics Association
- Material Handling Industry of America
- National Private Truck Council
- Voluntary Inter-industry Commerce Solutions Association

III. a. Industry Pathways. *(continued)*

Homeland Security and Defense

- Central Florida Community College
- F4W Communications
- Federal Bureau of Investigation
- FedEx Shipping
- Florida Gateway College
- Florida Department of Agriculture and Consumer Services
- Florida Department of Law Enforcement
- Florida Department of Transportation
- Florida Highway Patrol
- Florida Keys Community College
- Florida Power and Light Company
- Florida State College at Jacksonville
- Gulf Coast Community College
- Indian River State College
- National Domestic Preparedness Consortium
- Northwest Florida State College - Niceville
- Palm Beach State College
- Savatech Corporation
- Tallahassee Community College
- Tropicana Manufacturing Inc.
- South Florida Community College
- US Department of Homeland Security

Information Technology

- American Electronics Association
- BISCI
- Electronic Security Association
- Florida Local Governments Information Systems Association
- Florida Health Information Management Association
- Library and Information Technology Association
- South Florida Technology Alliance
- Telecommunications Industry Association

III. a. Industry Pathways. *(continued)*

Life Sciences

- BioFlorida
- BioIndustry Association
- Beowulf Genomics
- Biotechnology Industry Organization
- California Separation Science Society
- DECHEMA
- Embry Riddle Aeronautical University
- Foundation for Genetic Medicine
- GeneMed
- Genome Database - Curation (Johns Hopkins)
- International Society for Pharmaceutical Engineering
- International Society for the Study of Xenobiotics
- National Institute of Standards and Technology
- The Electrophoresis Society
- University of Florida's Center of Excellence for Regenerative Health Biotechnology

Professional/Financial Services

- Bookkeepers Association of Southwest Florida
- Financial Management Association International
- Financial Planning Association of Central Florida
- Financial Planning Association of Northeast Florida
- Florida Association of Insurance and Financial Advisors
- Florida Bankers Association
- Florida Government Finance Officers Association
- Healthcare Financial Management Association Florida Chapter
- National Association for Financial Professionals
- South Florida Association for Financial Professionals

III. a. Industry Pathways. *(continued)*

Tourism/Travel

- Beaches of South Walton
- Daytona CVB
- Florida Restaurant and Lodging Association
- Florida Association of Convention and Visitors Bureaus
- Florida Attractions Association
- Florida Caribbean Cruise Association
- Florida Superior Small Lodging Association
- Florida RV Trade Association
- Florida Fish and Wildlife Conservation Commission
- Greater Ft. Lauderdale CVB
- Greater Miami CVB
- Kissimmee CVB
- Naples Marco Island Everglades CVB
- Orlando/Orange County CVB
- Palm Beach CVB
- Pensacola CVB
- St. Augustine/Ponta Vedra/The Beaches CVB
- Tampa Bay & Co.
- The Beaches of Fort Myers and Sanibel
- Visit Florida
- Visit Jacksonville
- Visit St. Pete

Water Resources

- American Water Works Association
- Florida Earth Foundation
- Florida Groundwater Association
- Florida Rural Water Association
- Florida Water Environment Association
- Florida Water Quality Association
- National Rural Water Association
- North Central Florida Water Well Association
- Southeast Desalting Association



STEMflorida BUSINESS STEERING COUNCIL Phase II Meeting 4 Session Notes

January 13, 2011 - 1 p.m. to 3:30 p.m. ET | Tallahassee, Florida

SUMMARY OF BREAKTHROUGHS.

Workforce Florida hosted the STEMflorida team for Business Steering Council (BSC) Meeting 4 on January 13, from 1 to 3:30 p.m. ET in its large conference room. Team members and partners unable to join in person participated through teleconference and an online webinar platform. Workshop breakthroughs from the day of planning include:

1. Partner initiatives continue to call for updates and insights from the STEMflorida team and guidance on Florida's STEM movement. The responsibility for carrying forth the value propositions of STEM in general and an emerging STEMflorida enterprise rest with the stewardship of the BSC Team and its working groups, as well STEMflorida Partners.
2. The web portal must also serve as a clear pathway for connectivity as requests for understanding and insights emerge. It must also connect the STEMflorida team to the resources and timely information needed. A web map has been developed and reviewed by the BSC Team. This map is in use with the redesign of the portal for clarity in navigation, relevance to the emerging STEMflorida framework, and linkage to partners and partner network resources.
3. Four strategic goals and an Enterprise Goals framework model have been developed and approved by the BSC Team. With consensus around the language of the goals now set, the team moves forward with populating the framework.
4. The BSC Team reviewed and agreed upon a graphic model with five set indicators to provide a top-line gauge of the health of Florida's STEM movement and the proficiency of STEM talent development in our state. An in-depth series of interviews has been conducted through the third-party Indicator Scan Interview, conducted by Fairfield Index. Regional, state, and global partners have provided input into how STEMflorida may connect to provide the right tools to gauge the health of STEM talent development and the success of Florida's STEM movement.
5. Monthly meetings of the BSC Team remain of critical importance as a central briefing point throughout Phase II work. Meanwhile, specialized roles and responsibilities are forming around "working group" teams in areas including strategy, indicators/measurement, and industry connectivity.
6. Edits and recommendations on "Goal 3" language for the Florida STEM Strategic Planning Task Force were provided to Dr. Mabry Gaboardi (Task Force leadership team, and Learning Systems Institute at FSU) to share with the Task Force and its Goal 3 group. The STEMflorida BSC recommends deferring to the strategic planning process of STEMflorida for many of

MEETING 4 AGENDA STEMflorida BSC PHASE II

Welcome

Jimmie L. Davis, Jr., *Chair*, STEMflorida
Business Steering Council
The MITRE Corporation

Situation Assessment and Business of the Day

Don Upton, *President*, Fairfield Index, Inc.

Chair's Update: Decisive Moment - Clarity on Roles and Expectations

Davis

Status Update and Discussion

BSC Team and Upton

- Item #1 - Florida STEM Goal 3 Working Group
- Item #2 - Working Documents Review and Discussion - Indicator Scan Results and Draft Scorecard; Web Portal Updates
- Item #3 - Industry Ambassadors - Assignments and Team Outreach; Resources
- Item #4 - Regional Pathways Update
- Item #5 - Update on Strategic Planning - Final Goals Language

Agenda Items for the Next BSC Session and Documentation

BSC Team

Adjourn

Davis

the items noted in the draft Goal 3 language, and requested preview of the language of Goals 1 and 2 so that the STEM*florida* team could consider how and where they may serve as stewards and champions of those items. The Feedback Summary and Recommendations shared with Dr. Gaboardi are posted on the STEM*florida* Resources page, under STEM*florida* BSC.

BSC Chair Jimmie Davis launched the day's work with a reminder of the importance of the STEM*florida* team's work. He pointed again to the umbrella sketch of Florida's STEM movement, and emphasized that partners are looking to STEM*florida* to ensure an inclusive and effective "umbrella" for Florida's STEM movement. He noted the emergence of Florida's Talent Supply Chain Team as a critical collaborative partner which draws upon educational, academic, and leadership capacity from Florida's talent development pipeline, spanning early childhood education through lifelong learning.

Workshop moderator Don Upton, President of Fairfield Index, Inc., pointed to many efficiencies available through collaborative alignment with Workforce Florida, Inc. and its projects.

- A** Develop a Cluster and Infrastructure-Oriented, Comprehensive Supply and Demand Analysis
- B** Customer Satisfaction Index for Target Industry Clusters
- C** Integrated Communications
- E** Excellence and Alignment in Workforce Readiness Programs and Initiatives
- F** Resources for Management of Federal and State Policy Issues and Communicating Needs and Successes of Plan in Policy Community
- H** Convene and Support Talent Supply Chain Team for High Performance Expectations in Strategic Plan
- I** STEM Leadership for Florida
- J** Launch and Sustain the Best Informed Target Industry Cluster-specific Task Forces
- K** Evergreen Situation Assessment for Board
- *** State-led Regional Workforce/Economic Development Capacity-Building

The team recalled the prioritization of STEM inherent in Workforce Florida's Board decision to provide \$580,000 in launch funding for STEM*florida*, and also recalled the joint announcement role of Enterprise Florida, Inc. which succeeded discussions with state partners including the Florida Chamber of Commerce, the Florida Council of 100, and the Florida Department of Education.

The team considered the need to continue throughout and beyond Phase II with the same tone of inclusiveness in demand-driven solutions backed by Florida's employers and leadership, and informed by the academic, education, and philanthropic partners who will make success in STEM talent development a possibility for our state.

ITEM #1 - FLORIDA STEM STRATEGIC PLAN TASK FORCE GOAL 3 WORKING GROUP

Dr. Mabry Gaboardi confirmed receipt and review of the Feedback Summary and Recommendations document shared by the STEM*florida* team, following rounds of review and consideration by the BSC and its Strategy Working Group. The draft language of Goal 3 considered originally by the STEM*florida* team was:

Create a statewide sustainable STEM leadership organization aligning existing and emerging industry, education, philanthropy, policymakers, and parents to ensure business-led market-relevant STEM initiatives to represent Florida as one voice in meeting local, state and global STEM demands.

Dr. Gaboardi noted that she would make an attempt to share the Feedback Summary and Recommendations with the Florida STEM Strategic Plan Task Force. She also pointed to concern regarding a note in the final page of the summary document which questioned the ability of a state-wide leadership council on STEM to manage tactical curriculum/programmatic tasks. She indicated this was a serious concern of two engineering partners of the Task Force team.

Subsequent discussion lasted approximately one hour, and the STEM*florida* team noted that Projects, which are currently being developed through STEM*florida*'s strategic planning process, would point to execution of tactical or programmatic work similar to the item of concern noted by Dr. Gaboardi. The STEM*florida* team also underscored the importance of being able to consider and read the language of Goals 1 and 2 so that potential priorities could be considered as STEM*florida* Years 1 and 2 Projects are being designed.

The STEM*florida* team also indicated that the role of a leadership council on STEM (currently in development through STEM*florida*'s own strategic planning process) must be mindful of scope-creep and respectful of the time devoted by its volunteer leadership, just as any leadership organization must be. While applied programs are decidedly going to become key to the success of the emerging STEM*florida* enterprise, as well as its partners and the overall STEM movement in Florida, they are likely going to be indicated as strategic Projects rather than goals of the enterprise, and will therefore be moved as priorities within the strategic Projects and reviewed for success or lagging status at the Achievement level by a STEM*florida* Board.

The STEM*florida* team offered to post the Feedback Summary and Recommendations document on the STEM*florida* portal to allow Dr. Gaboardi ease in sharing the document with the Florida STEM Strategic Plan Task Force and its Goal 3 Working Group.

ITEM #2 - WORKING DOCUMENTS FOR REVIEW AND DISCUSSION - INDICATOR SCAN RESULTS AND DRAFT SCORECARD; WEB PORTAL UPDATES.

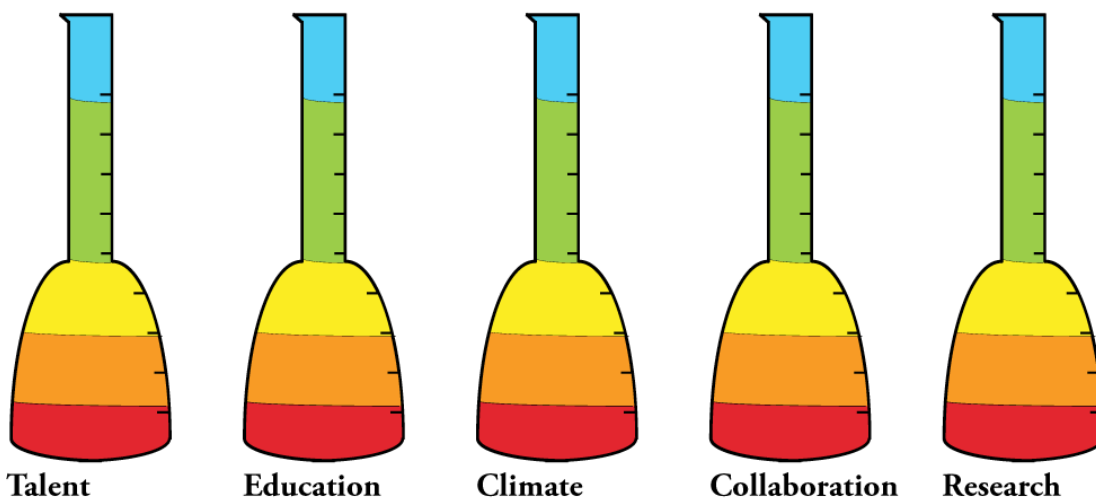
The BSC Team reviewed and confirmed recommendations on a Graphic Model and recommended categories to be used as gauges of proficiency in STEM talent development for Florida. The recommended model is shown below.

Third-party research has been conducted by Fairfield Index, Inc. through its Indicator Scan Interview series, with insights and recommendations gathered from local, regional, state, and global partners and leaders in STEM talent development, industries, associations, policy-leaders, and research institutes. Responses from these discussions have been filtered through the due diligence of STEM*florida* Phase I and the STEM*florida* State of STEM report (published January 2010) and Business Roundtables Summaries. Discussion among the BSC team and STEM*florida* partners has also helped form a final recommendation on the categories to be gauged through a Graphic Model, represented by a series of beakers.

The model will indicate one of five levels of proficiency for each of its five categories. The levels of proficiency will be represented as 1) Extreme Proficiency; 2) Proficiency; 3) Qualified; 4) Lagging; or 5) Severely Lagging. When considered in context of a transforming portal, the top-line view will be shown at or near the first-view for portal visitors. Deeper levels of data, either warehoused within the STEM*florida* portal or linked to through partner sites will help provide deeper illustration and allow unique visitors to the site to delve into particular areas of interest. Linkage upstream to Florida's Scorecard was also discussed as component important to the STEM*florida* team.

The BSC Team also reviewed a map of the revised, streamlined STEM*florida*.net. The web map outlines top-level linkage to regional partners who will be of critical importance especially regarding local/regional applied programs, outreach to school districts, and connection to economic development interests and industry cluster leaders. The BSC Team agreed that referencing information and resources on the site must be streamlined. It was indicated that the portal will also provide expression of the level of importance Florida placed on STEM talent development to a variety of audiences ranging from parent and students to site selection consultants.

GRAPHIC MODEL WITH SUGGESTED CATEGORIES



ITEM #3 - INDUSTRY AMBASSADORS - ASSIGNMENTS AND TEAM OUTREACH; RESOURCES.

BSC Chair Davis reminded the team of their previous assignment to elect preferences for Industry Cluster Outreach work. He noted that recommendations have been made for Ambassadors to each of the targeted industry pathways, and BSC members would receive a personal phone call from him within days.

Meanwhile, evidencing efficiencies in collaborative partnership with Workforce Florida, outreach to each of the Employ Florida Banner Centers is underway. Workforce Florida staff is reaching out to Banner Center directors and advisory council chairs to provide background on STEM*florida* and notice them of the calls they will receive from the STEM*florida* Industry Ambassadors. The BSC Team reviewed The Banner Connection, a document which also provides background to Banner Center points on the importance of STEM. Industry Ambassadors now have access to editable Contact and Data Request sheets, and will be asked to identify questions and areas for follow-up within their Industry assignments, secure signatures on the STEM*florida* “Declaration of Interdependence”, and connect ongoing internship opportunities with the central infrastructure of the STEM*florida* project management team.

ITEM #4 - REGIONAL PATHWAYS UPDATE.

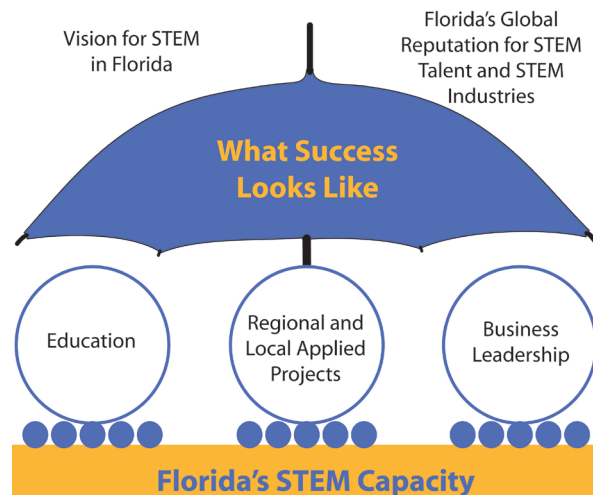
The team learned that mature regions around the state are placing STEM as a strategic priority, and that private briefings on STEM*florida* and its next steps have been requested. Additional connectivity to currently-underway strategic planning efforts in Florida’s communities presents opportunities to share with these regional economic development partners how they may connect customized regional priorities and strategy to a state-level platform on a hub-and-spoke level.

ITEM #5 - UPDATE ON STRATEGIC PLANNING - FINAL GOALS LANGUAGE.

The team agreed upon the final four Strategic Goals for the STEM*florida* enterprise: Credible, Regionally Embraced and **Globally Relevant Model** and Messaging; Clear, Meaningful **Pathways for Business Engagement and Learning**; Responsive, Productive Relationship with **Florida’s Talent Supply Chain Team**; and Best Evidence to **Support the Demand-Driven Model.**

Reviewing these goals within the Enterprise Goals framework, the team also discussed the role of Achievements as areas of review for a STEM*florida* organization. The team also discussed the importance of carefully staging priority Projects in the coming weeks for the first year, second year, and beyond. The next step in the strategic planning process for STEM*florida* is to populate the Achievements relative to each of the four strategic goals, and outline and stage Projects to help realize those Achievements. Resources and Collaborative Partners will also be identified throughout this step in the process, and will be refined in the coming steps.

The current Framework (Draft version 1.13.11) considered by the BSC during this meeting is included as an attachment. The “Umbrella Sketch” in use by the team to consider Florida’s STEM capacity is shown at center page.



STEM*florida* is responsible for articulating what success looks like on the global stage. This is a primary leadership role of the BSC in ensuring one STEM movement in Florida. The Council sees one STEM movement as including three “pillars”:

- Business-driven/Demand Side; Employers; Corporate and Strategic Philanthropy
- Programs, Projects, and Organizations Applying Ideas and Resources at the Regional to Local Level; Regional/Local Applied Philanthropy
- Education, Pedagogy, and Educational Research; Educational Philanthropy

AGENDA ITEMS FOR THE NEXT BSC SESSION AND SESSION DOCUMENTATION.

The next BSC meeting will include a heavy focus on strategic planning as well as additional important updates from working group teams. The team will consider the following items:

- Strategic Planning: Framework
- Strategic Planning: Staging of Projects
- Update from Industry Ambassadors
- Regional Pathways Briefing
- Web Portal Discussion

SPECIAL NOTE ON INDICATOR SCAN INTERVIEW PARTICIPANTS.

The STEM*florida* Phase II team gives special thanks to the following organizations who devoted their time and expertise to help inform our perspective on measurements for STEM proficiency around the globe and in our communities.

- American Chamber of Commerce Executives
- American Society for Engineering Education
- Agency for Workforce Innovation, Labor Market Statistics
- Chicago Metropolis 2020
- Columbia County Industrial Development Authority
- Enterprise Florida, Inc.
- FCR-STEM at Learning Systems Institute, Florida State University
- Florida Chamber Foundation
- Florida Department of Education
- Florida Economic Development Council
- Florida High Tech Corridor Council
- Gulf Coast Venture Forum
- Gulf Power Company (Southern Company)
- Haas Center for Business Research and Economic Development at University of West Florida
- Helios Education Foundation
- IBM
- Innovative Learning concepts, LLC
- Institute for Human & Machine Cognition
- Lockheed Martin Global Training and Logistics
- mentornet
- *myregion.org* (Central Florida Partnership)
- NanoInk
- National Science Foundation
- Space Coast Energy Consortium
- Space Florida
- The American Association for the Advancement of Science
- The MITRE Corporation
- University of Central Florida Office of Economic Development
- University of South Florida
- University of South Florida Alliance for Applied Research in Education and Anthropology
- Workforce Florida, Inc.

STEM*florida* BUSINESS STEERING COUNCIL

*Jimmie L. Davis, Jr. Chair -
The MITRE Corporation*

AppRiver

Carvajal Consulting and Management

Ditek Corp.

Enterprise Florida, Inc.

Florida Chamber Foundation

Florida Chamber of Commerce

Florida Department of Education

Gulf Power Company

Harris Corporation

IBM

Institute for Human and Machine Cognition

Jabil

Lockheed Martin Simulation Training and Support

Mayo Clinic Jacksonville

Mitsubishi Power Systems, Inc.

PCS Phosphate White Springs

Scripps Florida

Space Florida, Inc.

SRI

The Florida Council of 100

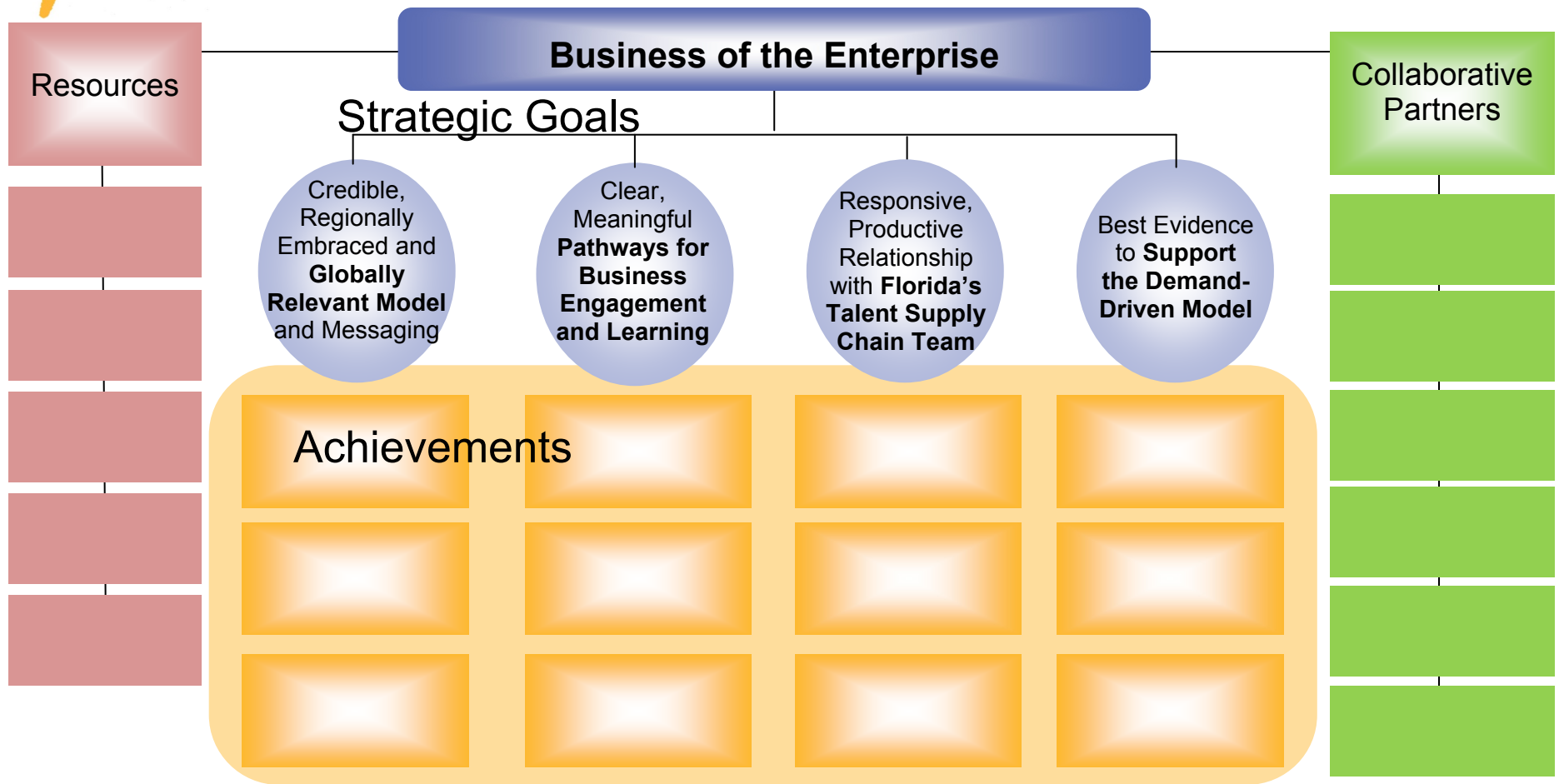
Workforce Florida, Inc.

NEXT MEETING.

STEM*florida* Business Steering Council Phase II **Meeting 5**

February 10, 2010 | 11 to 1 p.m. ET

Virtual Teleconference



A	Source and Develop Dynamic Scorecard to Gauge Proficiency of Florida's STEM Movement
B	World-class Communication of Values for Partners and Policy Leaders
C	Project C. – Year 1
D	Project D. – Year 2



STEMflorida BUSINESS STEERING COUNCIL Phase II Meeting 5 Session Notes

February 10, 2011 - 11 a.m. to 1 p.m. ET | Virtual Teleconference

SUMMARY OF BREAKTHROUGHS.

The STEMflorida team convened on February 10, 2011 for Business Steering Council (BSC) Meeting 5 from 11 to 1 p.m. ET by webinar-enabled teleconference. In addition to strong BSC participation, many familiar Phase II partners and stakeholders as well as new key partners joined this fast-paced session. The day's workshop breakthroughs include:

1. Partner initiatives and Florida's STEM stakeholders continue to turn to STEMflorida for updates and insights Florida's STEM movement. The creation and launch of a Florida's leadership council on STEM is the responsibility of the BSC and STEMflorida team. Florida's emerging Talent Supply Chain, economic development regions, partners, stakeholders, and even students around our state are interested in this team's efforts and a successful launch of the STEMflorida enterprise slated for the months ahead. BSC Members have been called on as experts and evidence of Florida's commitment to ensuring swift action in STEM and faithfulness to the demand-driven solution.
2. The new tone and simplicity of the developing web portal redesign conveys the level of clarity, relevance, and maturity the STEMflorida team has requested. The redesign, currently in progress, remains faithful to the web map and is on track to ensure streamlined navigability and efficient linkage to partners and partner network resources.
3. The jump-start Projects reviewed by the BSC Team provide a good next step for ensuring priority actions are tackled by STEMflorida with consideration to the needs and priorities of partner STEM initiatives and Florida's STEM movement, and in the context of the support and resources of an emerging STEMflorida enterprise and its Collaborative Partners. The Team continues to work on populating the Framework around the Enterprise Goals model, provided suggestions for the development of Florida's STEM Glossary, and has requested a brief tutorial at the next BSC session in March on the use of the Framework for planning purposes.
4. Following a series of in-depth third-party interviews through the Indicator Scan conducted by Fairfield Index, STEMflorida's Scorecard Team working group, chaired by Florida Chamber Foundation's Dr. Carrie Blanchard, will meet to discuss ongoing development of the Beakers model and the right indicators to gauge the health of Florida's STEM movement and the proficiency of STEM talent development in our state.

MEETING 5 AGENDA

STEMflorida BSC PHASE II

Welcome

Jimmie L. Davis, Jr., *Chair*, STEMflorida
Business Steering Council
The MITRE Corporation

Situation Assessment and Business of the Day

Don Upton, *President*, Fairfield Index, Inc.

Chair's Update: The State of the Movement

Davis

Status Update and Discussion

BSC Team; Upton; and Teresa Barber, *Manager - Regional Strategies & Transformation*, Fairfield Index, Inc.

- Item #1 - Industry Ambassadors and Banner Centers Update
- Item #2 - Web Portal Briefing
- Item #3 - Scorecard Working Group Update
- Item #4 - Regional Pathways Update
- Item #5 - Strategic Planning Workshop - Review of STEMflorida Framework and Glossary

Discussion, Agenda Items for the Next BSC Session, and Documentation

BSC Team

Adjourn

Davis

SUMMARY. (CONTINUED)

5. As BSC Members respond to requests from Chair Jimmie Davis to accept Industry Ambassador roles, the Florida Economic Development Council (FEDC) has prioritized communication of STEM*florida* to FEDC regional directors and members, exemplifying the tone of support and sharing the STEM*florida* team strives for with developing collaborative partners. As Employ Florida Banner Center directors anticipate calls and information from STEM*florida* Ambassadors, a few industries remain in need of ambassador leadership and support materials under development by the project management team will provide outreach guidance to BSC members interested in accepting these remaining assignments.
6. The STEM*florida* BSC had previously reviewed “Goal 3” language if the Florida STEM Strategic Plan Task Force’s draft. The Task Force, based at FCR-STEM (Learning Systems Institute at FSU) was permitted recently to share drafts of Goals 1 and 2 with the STEM*florida* Team. Those goals, each focused specifically on the educator or the student, had been reviewed by the STEM*florida* team in consideration of how and where an emerging STEM*florida* enterprise may champion elements of the items. Dr. Mabry Gaboardi (FCR-STEM staff and project management for the Florida STEM Strategic Plan Task Force) reminded the STEM*florida* team that the DRAFT document with Goals 1 and 2 language they reviewed would receive additional edits from her team of volunteers and were not final versions.

BSC Chair Jimmie Davis welcomed the STEM*florida* team to what promised to be a fast-paced work session in Tallahassee. He reminded the team of the importance of their participation in the day of work and the STEM*florida* effort. Florida’s Talent Supply Chain Team, set to convene soon, would look for guidance on how STEM must be prioritized and championed across education and the learning spectrum. Chair Davis also noted the rising volume of calls from Florida’s regions and emerging collaborative partners for STEM*florida*’s role ensuring STEM leadership for Florida. Fairfield Index President, Don Upton, confirmed that many economic development regions and organizations throughout Florida are now or have been standing up around STEM as a key priority, and are turning to STEM*florida* for alignment and insights into the state’s priorities and context.

ITEM #1 - INDUSTRY AMBASSADORS AND BANNER CENTERS UPDATE

During an early Phase II meeting, STEM*florida*’s BSC members demanded to be tasked with reaching out to Florida’s target industry leaders. The team sees this outreach as critical for ensuring that the input from those key industries is garnered for STEM*florida*’s Phase II planning work, and for ensuring the right leaders and employers are able to have a direct route for providing ongoing insights and needs regarding STEM talent development. To ensure BSC members are on task in this effort, Chair Davis has engaged the BSC membership through personal phone calls, ensuring members can take on Industry Ambassador roles in the areas they are most knowledgeable of. Meanwhile, communications and notice have been provided to Employ Florida Banner Center directors, who work with engaged groups of target industry sector leaders. Banner Centers will serve as helpful entry points for BSC Industry Ambassadors as they work to bring key employers to the table and ensure awareness of STEM*florida* efforts.

ITEM #2 - WEB PORTAL BRIEFING.

Development of a new portal has begun, based on the web map designed by the STEM*florida* team. Brown Bag Interactive (BBI) has been identified to streamline and simplify sight navigation and ensure a new, mature, business-like platform for connecting state-level communications, priorities, and actions with information and sites of collaborative partners and regional teams throughout Florida. The STEM*florida* team noted that they liked BBI’s pedigree and competencies; the web design firm has developed portals for Employ Florida Banner Centers and many of the centers’ advisory council teams. The STEM*florida* team provided its first round of review of the redesigned sight, and noted the beta site very favorably. The STEM*florida* team was urged to provide input on the site, including graphic images, font or font size, data organization, and partner linkage to the STEM*florida* project management team throughout this process. As this reimagined portal continues to be developed, the existing STEM*florida*.net site will continue to be used for posting documents, sharing information, discussing forum items, and accessing the BSC Toolkit.

ITEM #3 - SCORECARD WORKING GROUP.

STEMflorida has launched a Scorecard Team working group to drill down on STEM indicators, categories for measurement, and data sources and linkage. Florida Chamber Foundation's Dr. Carrie Blanchard serves as Chair of this important team. Dr. Blanchard noted that the team has been identified and will convene the following day for an initial launch meeting. The team will identify its scope of work and ensure it is connected to the right data and partners to help realize the aspiration of an effective STEM scorecard for Florida, in the context of Florida's Scorecard, regional STEM indicators currently in use by economic development and community partners, and state research offices.

The five categories the STEMflorida team has identified are represented by a series of beakers, and include the areas of Talent, Education, Climate, Collaboration, and Research.

The Scorecard Team's work launches following an initial Phase II round of due diligence and third-party interviews and diagnostics, and scan of global best practices in measuring and communicating success and concerns in STEM talent development. As mature regions around the state continue to prioritize STEM as a strategic imperative for their community and economic development aspirations, linkage to Florida's STEM indicators and scorecard will serve as a useful resource for alignment and measurement.

ITEM #4 - REGIONAL PATHWAYS UPDATE.

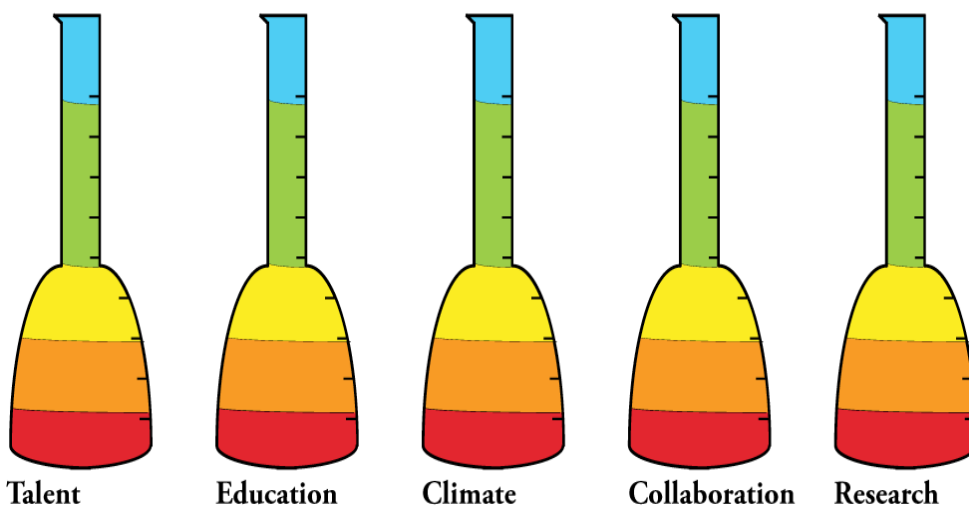
STEMflorida Meeting 5 participants included leaders from some of Florida's economic development regions and organizations, as well as Florida Economic Development Council (FEDC) President/CEO, Amy Evancho. The STEMflorida project management team's Teresa Barber reported on the developing partnership between the FEDC team and STEMflorida. The FEDC has provided direct updates on the STEMflorida effort to its Regional Directors, and plugged STEMflorida updates into general member social media updates and web site communications. Evancho confirmed how critical STEM is to value-based economic development strategy, and the important role STEM talent development can play for regions and communities striving for economic recovery or prosperity.

The partnership of FEDC has been a tremendous value to the STEMflorida team for their efforts to raise awareness about their work and Florida's aspirations for STEM leadership. The team sees this partnership continuing to grow and add value to the work of all in the coming months and work ahead. Meanwhile, organic requests for sharing and alignment have continued from economic development regions and business collaboratives. Many of these leaders are noting that the regions are likely to lead the state in terms of maturity around STEM priorities and STEM talent development, and the state-level movement will be in a good

position to share with the regions, but also to learn from regions where partnerships are strong and in place, and measurement of STEM indicators is already underway. Among resources the regions look forward to from STEMflorida are a STEM scorecard with indicators and a database for employers to post STEM internship and externship opportunities and track student and teacher engagement.

The STEMflorida team appreciated these important partners from Florida's regions, and thanked Evancho for her efforts to support the team's work ensuring demand-driven STEM leadership for Florida.

GRAPHIC MODEL WITH SUGGESTED CATEGORIES



ITEM #5 - STRATEGIC PLANNING WORKSHOP - REVIEW OF STEMFLORIDA FRAMEWORK AND GLOSSARY.

The Enterprise Goals model continues to be utilized to develop STEM*florida*'s framework for planning. The team confirmed the four key Strategic Goals identified for the STEM*florida* enterprise: Credible, Regionally Embraced and **Globally Relevant Model** and Messaging; Clear, Meaningful **Pathways for Business Engagement and Learning**; Responsive, Productive Relationship with **Florida's Talent Supply Chain Team**; and Best Evidence to **Support the Demand-Driven Model**.

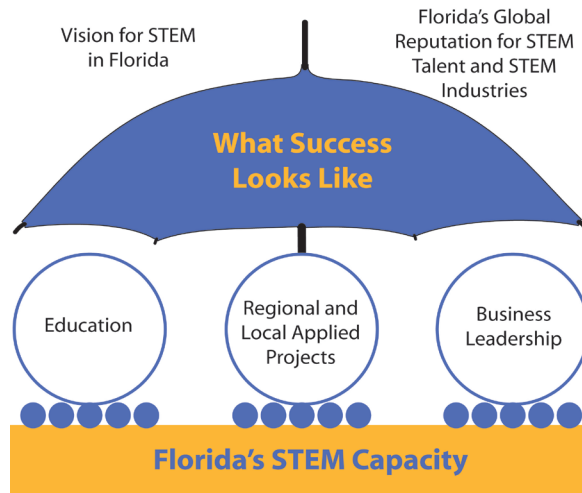
A series of eighteen (18) Achievements were reviewed in the context of each of the four strategic goals. A handful of jump-starter Projects were considered by the BSC and noted as elements that would inform the degree of success-to-Achievement for the STEM*florida* enterprise. The team liked the direction of the jump-starter projects, and communicated eagerness to review the next iteration at Meeting 6.

Setting a precedent for the US, the STEM*florida* team has begun development of Florida's STEM Glossary. The Glossary will serve as an appendix to the Strategic Plan, a tool for orienting collaborative partners and new team members, and a means through which all participants and stakeholders in Florida's STEM movement can ensure alignment of language and meaning. The team reviewed a set of terms currently in the process of development and definition, and provided additional recommendations for inclusion. The list of Collaborative Partners also received attention from the BSC. Members noted the need to include and specifically denote the State University System, and provided additional suggestions for individual collaborative partners.

As the STEM*florida* BSC continues its areas of work and delves into the final stages of strategic planning, members continue to utilize the "Umbrella Sketch" of STEM*florida*'s role and our state's STEM capacity, shown center page here, as a guidepost for discussions and planning.

AGENDA ITEMS FOR THE NEXT BSC SESSION AND SESSION DOCUMENTATION.

The team discussed additional outreach efforts STEM*florida* BSC members have participated in and led over the past several weeks. Multiple BSC members participated in interviews for a podcast series on STEM, sponsored by the Florida Department of Education. Chair Davis (The MITRE Corporation) and other BSC members also have been called on by 850 Business Magazine to provide insight into Florida's STEM movement and personal perspectives of leadership. Links to these media items will be available to through STEM*florida*.net as soon as they become available. The STEM*florida* project management team reiterated their availability for support to team members responding to media inquiries. Additional outreach efforts and activities scheduled for the coming days included a STEM*florida* presentation by Gulf Power's Jennifer Grove at the Sunshine State Scholars meeting, as well as a STEM*florida* educational exhibit for students, educators, and guidance counselors by the project management team. STEM*florida* BSC member Ken Ross (Lockheed Martin Training & Simulation) will speak on behalf of the team at an upcoming college access event hosted by University of Central Florida. Meanwhile, individual STEM*florida* team members and the BSC continue to serve as outreach agents in their communities and industries, and to keep collaborative and emerging partners apprised of this important effort.



STEM*florida* is responsible for articulating what success looks like on the global stage. This is a primary leadership role of the BSC in ensuring one STEM movement in Florida. The Council sees one STEM movement as including three "pillars":

- Business-driven/Demand Side; Employers; Corporate and Strategic Philanthropy
- Programs, Projects, and Organizations Applying Ideas and Resources at the Regional to Local Level; Regional/Local Applied Philanthropy
- Education, Pedagogy, and Educational Research; Educational Philanthropy

The next BSC meeting will include a heavy focus on strategic planning as well as additional important updates from working group teams. The team will consider the following items:

- Web Portal Redesign Update
- Enterprise Goals Model Tutorial and Briefing
- Strategic Planning: Projects Staging, and Glossary
- Scorecard Team Status Update
- Industry Ambassadors and Banner Centers Status
- Regional Pathways Briefing
- Web Portal Discussion



STEMflorida BUSINESS STEERING COUNCIL Phase II Meeting 6 Session Notes

March 15, 2011 - 1 p.m. to 3:30 p.m. ET | Tallahassee, Florida

SUMMARY OF BREAKTHROUGHS.

Meeting 6 of the STEMflorida team kicked off with strong participation from Business Steering Council members and numerous partners from regional economic development, education, and philanthropy. BSC Chair Dr. Jimmie Davis, of The MITRE Corporation, welcomed the team with a sense of congratulations for the hard work of preceding months. He noted that the BSC's efforts to reach out to partners, learn, and develop new approaches to the key questions of STEM talent development have culminated in a groundswell of support and emerging partnerships. Breakthroughs from the webinar-enabled workshop include:

1. Priority projects and actions have emerged through STEMflorida's strategic planning process, also incorporating input from education and academic leaders who participated in the Florida STEM Strategic Plan Task Force based out of Florida State University's FCR-STEM at Learning Systems Institute. The team has designed how projects should be staged and launched with consideration to Florida's eight economic development regions, key target industries and industry clusters, and philanthropic stakeholders. The first and precedent-setting STEM Glossary is under development through STEMflorida's strategic planning process.
2. STEMflorida is blazing the trail on a number of initiatives throughout the team's Phase II work. "The Best STEM Scorecard" is under development through the BSC Scorecard Team to determine how to best gauge the proficiency of STEM and STEM talent development in the state. Scorecard Team Chair Dr. Carrie Blanchard of the Florida Chamber Foundation has lead the drive to identify the best indicators for each of 5 key STEM categories, and conduct a gap analysis of existing and needed STEM data. Meanwhile, partners including the Agency for Workforce Innovation Labor Market Statistics continue to provide ongoing input.
3. Media interest in STEMflorida continues to be high, and multiple BSC members continue to share news on this movement for demand-driven, globally competitive STEM proficiency in Florida. STEMflorida has emerged through the Phase II efforts of the BSC as a platform for access to experts, leaders, and best practices.
4. The date has been set for a summer-time STEMflorida Think Tank, to be held in conjunction with the Florida Economic Development Council's 2011 Annual Conference in acknowledgement of the critical role STEM plays in value-driven economic development and job retention and creation. The Think Tank will take place June 24, 2011 at the Hyatt Regency Orlando International Airport.

MEETING 6 AGENDA

STEMflorida BSC PHASE II

Welcome

Jimmie L. Davis, Jr., *Chair*, STEMflorida
Business Steering Council
The MITRE Corporation

Situation Assessment and Business of the Day

Don Upton, *President*, Fairfield Index, Inc.

Chair's Update: Partnerships and the Work of the Coming Weeks

Davis

Status Update and Discussion

BSC Team; Upton; and Teresa Barber,
Manager - Regional Strategies & Transformation, Fairfield Index, Inc.

- Item #1 - Industry Ambassadors and Banner Centers: remaining assignments
- Item #2 - Web Portal Briefing
- Item #3 - Scorecard Team Update - an update from Scorecard Team Chair Dr. Carrie Blanchard
- Item #4 - Strategic Planning Workshop - Review of STEMflorida Framework and Glossary
- Item #5 - Regional Pathways and Emerging Successes
- Item #6 - STEMflorida Think Tank

Discussion, Agenda Items for the Next BSC Session, and Documentation

BSC Team

Adjourn

Davis

ITEM #1 - INDUSTRY AMBASSADORS AND BANNER CENTERS: REMAINING ASSIGNMENTS

Early in Phase II, the STEM*florida* BSC team demanded ownership of the task of reaching out to Florida's STEM-enabled employers. Following this realization that BSC leaders could ensure the best pathways for connectivity to realistic employer demands in STEM, the Industry Ambassador program was launched. BSC Industry Ambassadors provide additional volunteer support to the STEM*florida* effort by reaching out directly to employers who rely on STEM talent to compete and win.

Although BSC Industry Ambassadors have received preliminary support and tools from the STEM*florida* Phase II project management team at Fairfield Index, these leaders have taken to identifying and engaging STEM-enabled employers. The Ambassadors are instrumental in ensuring employer needs are heard by STEM*florida* and incorporated into the Phase II work, including strategic planning and staging of priority projects for an emerging STEM*florida* enterprise expected to launch at the close of Phase II. The Ambassadors tended to volunteer for industry roles they were most comfortable providing outreach or cross-walking connection to STEM*florida* to. Because many of the BSC members themselves represent STEM-enabled employers or work directly with such industry leadership, they have found ease communicating the value of the team's efforts to ensure STEM leadership for Florida and conveying the benefits this work will create for Florida's job creators.

The Employ Florida Banner Centers have served as key entry points for Ambassadors, as well. Each Banner Center is under strategic guidance of an Industry Advisory Council (IAC), a team of industry-specific volunteers and community stewards who understand the demands of these STEM-enabled employers. Workforce Florida's Catherine Kennedy, project manager for the Banner Centers, provided an update on the STEM*florida* discussion among Banner Center Directors and IACs. She noted that Banner Centers seem excited about the prospects around the corner from connecting with the STEM*florida* movement. Kennedy herself had provided additional briefings to a recent Banner Center best practices meeting.

Chair Davis discussed the enthusiasm he met with during initial calls to BSC members regarding Industry Ambassador assignments, and noted a few additional industry pathways still in need of volunteers.

ITEM #2 - WEB PORTAL BRIEFING.

While the existing STEM*florida*.net site continues to serve as the main point of information-sharing for the team, work on the re-imagined portal continues. The BSC team provided feedback on the developing site, and additional comments were requested to be provided by email. As the new site continues to develop, BSC and general team input will be needed to ensure that regional and industry partners are linked to effectively, information and data is organized in meaningful ways, team workspaces (such as a new space for BSC or board materials) include all relevant details, and the messages conveyed on this important platform match the bold, innovative force of the STEM*florida* movement. Additional comments on the developing site, warehoused at <http://stemflorida.businesscatalyst.com>, should be directed to tbarber@fairfieldindex.com.

ITEM #3 - SCORECARD TEAM.

Florida Chamber Foundation's Dr. Carrie Blanchard has successfully led the STEM*florida* Scorecard Team beyond its launch and into a series of assignments focused on development of The Best STEM Scorecard. Scorecard Team Chair Blanchard provided an update on the work of the team thus far. She noted that they have focused on how the five key categories previously identified by the BSC team to gauge STEM proficiency (Talent, Education, Climate, Collaboration, and Research) can best be measured. The working group has drilled down from a broad global scan of STEM indicators being considered by other states, regions, and nations to view existing data sources available for measurement in Florida. Dr. Blanchard also provided a reminder of Florida's Scorecard for new participants and discussed the importance of STEM talent from the Chamber Foundation's perspective. She noted that the team would be conducted a gap analysis of existing and needed data to truly have a meaningful tool for gauging the proficiency of STEM and STEM talent development in our state. She also noted that the Scorecard Team has requested consideration of a national best practice for an upcoming meeting, and they hope to learn from a group who has demonstrated clear success in a similar effort.

ITEM #4 - STRATEGIC PLANNING WORKSHOP

REVIEW OF STEMFLORIDA FRAMEWORK AND GLOSSARY.

Working within the context of Fairfield Index’s Enterprise Goals system, STEMflorida has developed a draft strategic plan and identified four Strategic Goals and thirteen Projects.

At the request of Chair Davis, the Fairfield Index team provided a brief tutorial on the Enterprise Goals system at the launch of this work item. Don Upton and Teresa Barber provided definition of terms including Strategic Goals, Achievements, Projects, Collaborative Partners, Operating Plans, and Resources. The Enterprise Goals tutorial and strategic planning workshop slides can be accessed at <http://tinyurl.com/6g84ta9> and found on slides 25 through 45.

After some discussion, the BSC team moved to change the term Achievements to the more common term, Objective. The team walked through and confirmed the Strategic Goals around which the STEMflorida framework is being developed:



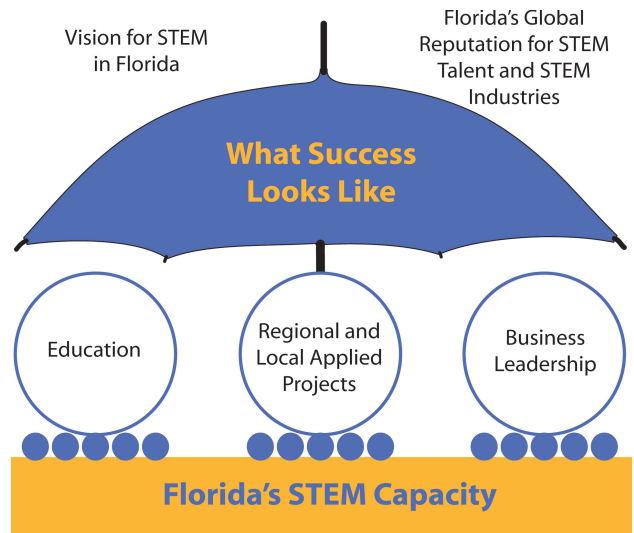
The existing series of eighteen (18) Achievements (now Objectives) was reviewed in context of the Strategic Goals and the team confirmed the next step of considering those Objectives in context of the emerging Projects. Amending to the early jump-starter Projects, the team added new items including:

- Launch Channels for Data-gathering and Support of Minority, Women, and Under-served Populations’ Access to STEM Programs and Activities
- Develop Employer and Student-friendly State-wide Tool of STEM Internships and Externships linked to STEMflorida and CPALMS
- Create Evergreen Tools for Learning and Engagement by Florida’s Regions and Existing, Emerging, and Potential STEM Employers
- Ensure Relevant Pathways for Philanthropic Connection to Florida’s State and Regional STEM Priorities
- Construct Statewide Inventory of STEM Priorities and Efforts with Channels for Input from Regional Partners

The team noted satisfaction with the new developments, and discussed the impact “on the ground” which will accompany realization of these developing Projects. The BSC team expressed

eagerness to review the next iteration of the framework and explore coding/linkage of Projects to Objective. Another next step for the BSC team in the process is identification of both the Resources and the Collaborative Partners necessary to make the STEMflorida Projects “go”. Don Upton reminded the team that Collaborative Partners is not just a name bestowed on friendly or helpful organizations and agencies. Collaborative Partner relationships for the STEMflorida enterprise must be built upon and guided by MOUs.

The team provided additional input on the precedent-setting STEM Glossary. New terms specific to the Enterprise Goals model were recommended for inclusion, so that the strategic framework and plan of the STEMflorida enterprise is provided additional context in the Glossary tool. The team also added a number of additional terms to define, including STEM Jobs and STEM Proficiency. As an appendix to the strategic plan, Florida’s STEM Glossary will serve as a tool for orienting collaborative partners and new team members, and a means through which all participants and stakeholders in Florida’s STEM movement can ensure alignment of language and meaning.



STEMflorida is responsible for articulating what success looks like on the global stage. This is a primary leadership role of the BSC in ensuring one STEM movement in Florida. The Council sees one STEM movement as including three “pillars”:

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- Education, Pedagogy, and Educational Research; Educational Philanthropy

ITEM #5 - REGIONAL PATHWAYS AND EMERGING SUCCESSES.

The Florida Economic Development Council (FEDC) has recognized STEM*florida* as a best practice, and continues to embrace this movement to ensure STEM leadership for Florida. On February 14, FEDC launched a new web site and continues to post STEM*florida* updates on this portal for economic development practitioners and leaders throughout the state and beyond. The work and milestones of the BSC team are also being shared through FEDC social media pushes and outreach, and the STEM*florida* BSC Chair, Dr. Jimmie Davis, has been asked to lead the discussion on STEM and showcase STEM*florida* at the 2011 FEDC Annual Conference. In addition, FEDC's Annual Conference Planning Committee wholly embraced the concept of holding the summer-time STEM*florida* Think Tank in conjunction with FEDC's Conference, acknowledging the critical importance of STEM in value-driven economic development and job creation and retention.

Meanwhile, organic outreach continues to STEM*florida*. Regional partnerships, chambers of commerce, economic development organizations, and collaboratives are turning to STEM*florida* to ensure alignment with the emerging model and priorities of the BSC team, and also to share the successes and STEM leadership of their own regional communities. Chair Davis called for introductions of regional partners on the line. Leslie Hielema introduced herself as President of Orlando, Inc., a line of business of the 7-county Central Florida Partnership. She expressed the strong priority her team has placed upon STEM, and noted interest in staying engaged and continuing to learn what information may be helpful to provide to STEM*florida* in the coming weeks. Jacksonville Cornerstone's Ashley Folladori also introduced herself and remarked on the emergence of STEM as a priority for the Cornerstone regional team and the strong force of collaboration between the regional workforce board, economic development, chamber, and key community stakeholders on this important effort.

The Phase II project management team also noted that STEM*florida* is in search of Regions and best practices to showcase as they exemplify local/applied projects in STEM and stand up models for other regions and teams to replicate and learn from.

The STEM*florida* BSC was applauded for additional outreach made on behalf of the team's efforts. A podcast series on STEM funded by the Florida Department of Education leads off with interviews from BSC members, including Gulf Power's Jennifer Grove, Lockheed Martin's Ken Ross, and Chair Dr. Jimmie Davis of The MITRE Corporation. Additionally, 850 Business Magazine conducted a series of

interviews, calling on STEM*florida* BSC members as experts on Florida's STEM movement and STEM talent development. A number of additional engagements have been utilized by the BSC team to express the good work of the team throughout Phase II, and the impact around the corner this work will have on STEM in Florida. In February, Ken Ross shared the work of STEM*florida* at the Central Florida College Access Summit and provided the Phase II team with the insights he gained.

Following invitation from the Florida Education Foundation, STEM*florida* provided an exhibit for Sunshine State Scholars and their parents in Orlando, and Grove shared updates on the STEM*florida* effort with the team during its breakfast workshop. At that meeting, numerous parents, guidance counselors, and educators expressed excitement about the projects emerging from the Phase II work, especially the state-wide databank of STEM-enabled internship and externship opportunities. One parent of a Sunshine State Scholar remarked that having the ability to view all STEM-enabled internship opportunities will make a tremendous difference in the ability of her daughter to learn hands-on STEM skills and understand the myriad opportunities available in the workforce for highly-skilled, smart students interested in STEM. Another parent noted the internship/externship databank as a way to help his son understand that engineering comes in many forms - from bioengineering to water quality engineering to robotics engineering - and that there are many interesting opportunities. On that note, the Phase II team reminded the BSC that, as they continue to delve into their Industry Ambassador work and conduct additional outreach to new partners, information on STEM-enabled internships and externships should be forwarded to tbarber@fairfieldindex.com or cmanning@fairfieldindex.com.

ITEM #6 - SUMMER STEM THINK TANK.

With the recognition of STEM*florida* as a best practice, the FEDC's Annual Conference Planning Committee has embraced the concept of holding STEM*florida*'s summer-time Think Tank in conjunction with its own 2011 FEDC Conference, titled Introducing the New Florida. The BSC team expressed enthusiasm about the acknowledgement of STEM as a critical table-stake for communities and regions looking to compete globally on value-driven economic development and job creation and retention. The STEM*florida* Think Tank is scheduled for June 24 at the Hyatt Regency Orlando International Airport, on the final day of the FEDC Conference. The FEDC 2011 Conference is scheduled for June 23 and 24, and as its second day of work concludes, STEM*florida* kicks off a morning session of sharing reports and think tank materials as well as exhibits of best practices in local/applied STEM programs and initiatives. The afternoon of the think tank is designated to address a series of critical questions.



STEM*florida* BUSINESS STEERING COUNCIL
Phase II Meeting 6 **Session Notes**

March 15, 2011 - 1 p.m. to 3:30 p.m. ET | Tallahassee, Florida

AGENDA ITEMS FOR THE NEXT BSC
SESSION

The next STEM*florida* Business Steering Council meeting is scheduled for April 19, 2011 as a virtual teleconference at 1 p.m. ET. Agenda items will include the following:

- BSC Industry Ambassadors
- Web Portal Briefing and Site Feedback
- Scorecard Team Update on Progress
- Strategic Planning Workshop
- STEM*florida* Think Tank Planning Discussion

STEM*florida* Phase II
Business Steering Council
Meeting 7

April 19, 2011
1 p.m. to 3 p.m. ET
Virtual Teleconference

STEM*florida* Business Steering Council

Jimmie L. Davis, Jr., D.Eng.,
The MITRE Corporation; STEM*florida* BSC *Chair*

AppRiver

Boeing

Carvajal Consulting and Management

Ditek Corp.

Enterprise Florida, Inc.

Florida Center for Nursing

Florida Chamber Foundation

Florida Chamber of Commerce

Florida Department of Education

Gulf Power

Harris Corporation

IBM

Institute for Human and Machine Cognition

Jabil Circuit

Jabil University

Lockheed Martin - Simulation, Training, and Support

Mayo Clinic - Jacksonville

Mitsubishi Power Systems, Inc.

PCS Phosphate White Springs

Scripps Florida

Space Florida, Inc.

Smart City Holdings

SRI

The Florida Council of 100

Workforce Florida, Inc.



STEMflorida BUSINESS STEERING COUNCIL Phase II Meeting 7 Session Notes

April 19, 2011 - 1 p.m. to 3 p.m. ET | Virtual Teleconference

SUMMARY.

STEMflorida Business Steering Council (BSC) *Chair* Dr. Jimmie Davis, of The MITRE Corporation, welcomed the team to the Meeting 7 discussion with a reminder of the unique nature of the team's effort as demand-driven and market relevant, while deliberately considerate of the partners needed to bring success to Florida's STEM movement, including education/talent development and Florida's Talent Supply Chain Team; foundations and philanthropy; regional partners and collaboratives; chambers of commerce; economic development organizations (EDOs); economists and labor market statisticians; and, importantly, industry leaders and associations with stakes in STEM. Chair Davis provided a brief welcome to four additional members of the BSC team: Mary Lou Brunell of the Florida Center for Nursing; Deborah Kelly of Boeing; Dr. Eric Roe of the Employ Florida Banner Center for Advanced Manufacturing; and Marty Rubin of Smart City Holdings. These newest members of the team shared personal perspectives on how STEM relates to their industries, providing unique connections of the need for market-relevant improvements in the STEM pipeline and toolkit. Chair Davis reminded the full BSC team that the coming weeks will require candor as projects and strategic framework items are finalized, as well as commitment of the team to champion STEMflorida beyond Phase II work into a new capacity as Florida's not-for-profit STEM entity. Breakthroughs from the Meeting 7 workshop include:

1. The priority projects and actions which emerged through STEMflorida's strategic planning process incorporate input from education and academic leaders and, to ensure market relevancy, are under design with special consideration to Florida's regional and industrial architecture. These key priorities received deliberation during Meeting 7 to ensure they were inclusive of not only target industry clusters in Florida but also the Infrastructure Innovators - industries which enable all others in Florida to succeed, including energy, water resources, and global logistics.
2. The team provided edits and input on Florida's STEM Glossary, a precedent-setting effort to ensure all partners and stakeholders in Florida's STEM movement are speaking the same language and have clarity for collaborative work across regions, industries, and partner roles.
3. Updates on new developments from the STEMflorida Scorecard Team work include a number of initiatives intended to raise the bar for market-relevant STEM efforts across the learner/talent development pipeline. Scorecard Team *Chair*, Dr.

MEETING 7 AGENDA

STEMflorida BSC PHASE II

Welcome

Jimmie L. Davis, Jr., *Chair*, STEMflorida
Business Steering Council
The MITRE Corporation

Situation Assessment and Business of the Day

Don Upton, *President*, Fairfield Index, Inc.

Chair's Update: The Next Steps, The Work Ahead

Davis

Status Update and Discussion

BSC Team; Teresa Barber,
Manager - Regional Strategies & Transformation, Fairfield Index, Inc.; and Upton

- Item #1 - Industry Ambassadors Update
- Item #2 - Web Portal Briefing and Site Feedback
- Item #3 - Scorecard Team Update on Progress- Scorecard Team *Chair* Dr. Carrie Blanchard, Florida Chamber Foundation
- Item #4 - Strategic Planning Workshop - STEMflorida Framework and Glossary
- Item #5 - STEMflorida Think Tank Planning Discussion

Discussion, Agenda Items for the Next BSC Session, and Documentation

BSC Team

Adjourn

Davis

Carrie Blanchard of the Florida Chamber Foundation, noted the Phase II work to develop “The Best STEM Scorecard” continues with input from key experts within Florida and beyond. Among the developing proprietary concepts are: development of definitions for STEM Job and STEM Industry, to inform construction of Florida’s STEM Job Index; an interactive STEM cluster map; and regional assessment/metrics.

4. The portal, redesigned based on STEMflorida BSC and partner input, has readied for launch and final requests for input and recommendations were invited by the project management team of Fairfield Index, Inc.
5. Registration has opened for the STEMflorida Think Tank. The Think Tank will be held as a stand-alone event in conjunction with the Florida Economic Development Council’s (FEDC) 2011 Annual Conference, titled “Introducing the NEW Florida”. This event co-location serves as acknowledgement of the critical role STEM plays in value-driven economic development and job retention and creation. Outreach has also commenced for the Think Tank, and BSC members and partners were encouraged to share updates on the workshop and the critical questions to be addressed that day. The team was provided with the Twitter hashtag for the Think Tank, #ThinkSTEM. The Think Tank, scheduled for June 24, 2011 at the Hyatt Regency Orlando International Airport, is designated for leaders from industry, education and talent development, philanthropy, community and economic development, and business/entrepreneurship.

ITEM #1 - INDUSTRY AMBASSADORS UPDATE

The team considered the charge of STEMflorida’s BSC Industry Ambassador team, and the ongoing effort to forge reciprocal pathways of communication with Florida’s STEM-enabled employers. The Ambassador program launched following the realization by BSC leaders that they could best ensure connectivity to real market demands in STEM at the C-level. Although provided initial and interim tools and support through the STEMflorida project management team, the volunteer force of Industry Ambassadors have functioned largely with autonomy, often relying upon support from relevant Employ Florida Banner Centers and their directors.

As a key entry point for Ambassadors, Banner Center teams have served have provided connectivity to Centers’ Industry Advisory

Councils (IACs); volunteer teams of industry experts and leaders who provide strategic guidance, community and industry stewardship, and who understand the demands of these STEM-enabled employers. Early findings of the Ambassador work do indicate, however, that STEM awareness is critical even among key industry leaders. In some industry channels, STEM is a vacuum term without significance or clear definition. Further, leaders from STEM-enabled industries may have solid occupational alignment with STEM curriculum as published by the US Department of Labor-funded O*NET portal, but historically have had little guidance on how to connect to the value proposition and real toolkit and talent supply values of STEM initiatives through the state.

BSC Members have been engaged in Industry Ambassador Outreach with special attention to the STEM needs and concerns relevant for the following pathways:

- Advanced Manufacturing
- Agriscience
- Aviation/Aerospace
- Clean Energy
- Construction
- Creative Industries
- Energy
- Global Logistics and Distribution
- Healthcare
- Homeland Security and Defense
- Information Technology
- Life Sciences
- Professional/Financial Services
- Water Resources

ITEM #2 - WEB PORTAL BRIEFING.

New elements to the redesigned portal were introduced, including the addition of online forms to support the work of the BSC Industry Ambassadors. Detail and search capabilities were also added to the site in general, and the team discussed Resources components of the new portal including indexed categories and searchable media items. Regional components also are under development to provide pathways for communication from each of Florida's eight economic development regions and to serve as micro-portals for regional teams and collaboratives. Labor market statistics and Banner Center linkage are being rolled into the portal, as is priority location for The Best STEM Scorecard and the additional priorities identified by the BSC team throughout the web map design process. Input from the BSC and general STEM*florida* team was invited to be sent to tbarber@fairfield-index.com. In the days following Meeting 7, the new portal will transfer from its current location at <http://stemflorida.business-catalyst.com> to <http://www.STEMflorida.net>.

ITEM #3 - SCORECARD TEAM.

Subsequent to forming in the first quarter of 2011, the STEM*florida* Scorecard Team has completed several work items and important discussions through the leadership of its working group *Chair*, Florida Chamber Foundation's Dr. Carrie Blanchard and joint participation by STEM*florida* BSC *Chair* Dr. Davis. As the team works to develop The Best STEM Scorecard, they continue to consider the appropriateness of the five key categories initially identified through Phase II due diligence. These categories include Talent, Education, Climate, Collaboration, and Research. Dr. Blanchard reported the current efforts of the Scorecard Team including consideration of how data may best be organized to inform these key categories, previously represented as a set of beakers. Blanchard also noted that the team is processing an in-depth review of available data and considering weighting options to inform the Scorecard.

The Scorecard Team reported on a recent discussion with guest expert, David Cedrone, *Executive Director* of Massachusetts Governor's STEM Advisory Council and *Associate Commissioner for Workforce and Economic Development* for the Massachusetts Department of Higher Education. Mr. Cedrone joined the working group to share experiences of his state's efforts and lessons learned/best practices. BSC Member Ken Ross of Lockheed Martin Simulation, Training, and Support noted that the Massachusetts team began its work from a charter out of that state's

executive office; whereas STEM*florida* initiated through support of state-level partnerships and a groundswell of industry-led demand for improvement in various STEM areas. Chair Davis also noted that, while the Massachusetts effort focuses sharply on issues around higher education, teacher effectiveness, and curriculum development, the STEM*florida* enterprise is emerging with a deeper charge and will include solutions and pathways for those components but will extend further into market-relevancy, STEM demand-side data, and many other areas.

Three emerging proprietary initiatives born of the STEM*florida* Scorecard Team working group were shared with the BSC team. These include an interactive map of STEM employers and programs/initiatives, as well as a tool for regional assessment to help empower Florida's communities seeking a competitive foothold in STEM and for partners interested in gauging virtuosity in Florida's regional STEM efforts. The third item, a STEM Index, was noted with a call to engage critical partners in the task of defining STEM Job and STEM Industry with special consideration to Florida's economic development strategy and partners' aspirations for global competitiveness. Fairfield Index's Teresa Barber provided a brief status update on the Phase II project management team's work contacting O*NET STEM jobs data, and noted that although crosswalks between standard occupational codes (SOCs) and curriculum standards had been provided, the team still awaits clarity on the full methodology for STEM Jobs determination. The team discussed the virtual vacuum of policy beyond K-12 regarding STEM and the need to ensure that clarity and rigor remain integral to how Florida considers and gauges growth or contraction, success and need in STEM areas. Don Upton, *President* of Fairfield Index, noted that a STEM*florida* team decision to move forward with determining a unique definition of both STEM Job and STEM Industry with a rigorous methodology - especially in partnership with the Florida Chamber Foundation, Workforce Florida, Enterprise Florida, Agency for Workforce Innovation, Florida Department of Education, and other key stakeholders - undeniably sets the efforts of this team and this state apart. He reiterated that the collaborative effort to develop Florida's STEM Glossary speaks clearly of the desire of the leaders of Florida's STEM movement to ensure market-relevancy and make the case for a demand-driven solution.

ITEM #4 - STRATEGIC PLANNING WORKSHOP - STEM*florida* FRAMEWORK AND GLOSSARY.

The STEM*florida* BSC works within the context of Fairfield Index's Enterprise Goals system for its strategic planning process. At the request of *Chair* Davis, Don Upton provided a brief tutorial of the Enterprise Goals system and framework. To illustrate a fully populated and operationalized plan, Upton turned the team's attention to the US DOL best practice of Workforce Florida's five-year strategic plan, *Creating the Strategy for Today's Needs and Tomorrow's Talent*, also built around the Enterprise Goals model. The team considered the need to remain strategically focused while visioning the role of the emerging STEM*florida* enterprise, and also considered the efficiency of devising strategic Projects in context of both enterprise Resources and synergies with Collaborative Partners. Upton noted that Collaborative Partners would be strong pathways for enterprise efficiency, developed with MOUs to ensure clarity of relationships, expectations, and accountabilities.

The team considered the revised view of the Framework draft, with a set of eight streamlined Projects now replacing the set of thirteen. As the team walked through the updated language of each Project, they considered expectations in view of the Objectives that Project would inform. In the new STEM*florida* enterprise, success-to-Objective will be reviewed by the board.

The team recommended including definitions of *STEM Program*, *Apprenticeship*, and *Work-based Learning* in Florida's STEM Glossary. Chancellor Loretta Costin, Florida Department of Education Career and Adult Education, agreed to share a working definition of the term, *Work-based Learning*. Chair Davis reiterated the strength of the team's decision to clarify definitions through the Glossary as a strong means of working collaboratively with partners to embolden the state of STEM policy in Florida and set the standard for best practices in STEM around the US.

ITEM #5 - STEM*florida* THINK TANK.

Outreach for STEM*florida*'s Think Tank has begun, and registration for the important summer conversation is now open online at <http://tinyurl.com/3tdkd7l>. As the conversation builds toward the date of the think tank, the team is encouraged to use the Twitter hashtag #ThinkSTEM to post and track updates and information.

The team considered the draft agenda for the Think Tank discussion. A morning plenary provides an opportunity for participants to receive the critical tools for the day along with appropriate briefings on their use. These tools include the 2011 State of STEM Report and STEM*florida*'s Strategic Plan. The morning plenary also provides an opportunity for the think tank team to set out and confirm the questions of the day, which will frame the afternoon of workshop activities.

Morning exhibits will be set to include best practice representatives from local/applied academic programs and university-based initiatives; foundation-driven programs and successes; regional priorities and economic development/workforce collaborative best practices and models; and other hands-on or best practices representations of Florida's STEM movement.

Following a lunch break, the Think Tank is set to convene in the afternoon following adjournment of FEDC's conference, around the three key questions:

- ▶ What is STEM?
- ▶ Does it Matter?
- ▶ STEM Leadership for Florida: Do we have what it takes to compete and Win?

The afternoon includes an additional opportunity for the team to work on definitions for STEM Job, STEM Industry/Employer, and STEM Program with collaborative partner participation. Dr. Blanchard, *Chair* of the STEM*florida* Scorecard Team, will provide an introduction to The Best STEM Scorecard. Breakout sessions will include a best practices review as well as a Collaborative Partners workshop to ensure the formative STEM*florida* enterprise launches inclusive of key partners and driven toward success for Florida's STEM movement.

AGENDA ITEMS FOR THE NEXT BSC SESSION

The next STEM*florida* Business Steering Council meeting is scheduled for May 31, 2011 as a webinar-enabled face-to-face discussion commencing at 1 p.m. ET in Tallahassee at the offices of Workforce Florida, Inc. Agenda items will include the following:

- BSC Industry Ambassadors
- Soft Launch of the New Portal
- Scorecard Team Update on Progress
- Partners: Sharing, Efficiencies, and Accountabilities
- Preparing for Launch: Anticipating the Release of Our Plan - STEM Leadership for Florida + Glossary Updates
- STEM*florida* Think Tank Discussion

STEM*florida* Phase II
Business Steering Council
Meeting 8

May 31, 2011
1 p.m. to 3:30 p.m. ET
Tallahassee, Florida

STEM*florida* Business Steering Council

Jimmie L. Davis, Jr., D.Eng.,
The MITRE Corporation; STEM*florida* BSC *Chair*

AppRiver

Boeing

Carvajal Consulting and Management

Ditek Corp.

Employ Florida Banner Center for Advanced
Manufacturing

Enterprise Florida, Inc.

Florida Center for Nursing

Florida Chamber Foundation

Florida Chamber of Commerce

Florida Department of Education

Gulf Power

Harris Corporation

IBM

Institute for Human and Machine Cognition

Jabil Circuit

Jabil University

Lockheed Martin - Simulation, Training, and
Support

Mayo Clinic - Jacksonville

Mitsubishi Power Systems, Inc.

PCS Phosphate White Springs

Scripps Florida

Space Florida, Inc.

Smart City Holdings

SRI

The Florida Council of 100

Workforce Florida, Inc.



STEM*Florida*, Inc.
Strategic Plan: *STEM Leadership for Florida*

Appendix D.

Business Steering Council Roster | Phase II

Business Steering Council Roster - STEM*florida* Phase II

Jimmie L. Davis, Jr., Chair; The MITRE Corporation

AppRiver

Boeing

Carvajal Consulting & Management

DITEK Corporation

Employ Florida Banner Center for Advanced Manufacturing

Enterprise Florida, Inc.

Florida Center for Nursing

Florida Chamber of Commerce

Florida Chamber Foundation

The Florida Council of 100, Inc.

Governor's Office of Tourism, Trade & Economic Development

Gulf Power Company

Harris Corporation

IBM

The Institute for Human & Machine Cognition

Jabil Circuit

Keiser University

Lockheed Martin

Mayo Clinic Jacksonville

Mitsubishi Power Systems, Inc.

PCS Phosphate White Springs

Scripps Florida

Space Florida

Smart City Holdings

Workforce Florida, Inc.



STEM*Florida*, Inc.
Strategic Plan: *STEM Leadership for Florida*

Appendix E.

2011 Best Practices Awards | June 2011



FOR IMMEDIATE RELEASE

June 21, 2011

Media Contact: Teresa Barber, Director

Fairfield Index, Inc.

813.777.6151 | tbarber@fairfieldindex.com

STEM*florida* announces 2011 Best Practices Awards to be Honored at ThinkSTEM

Following rounds of due diligence and calls to leaders across Florida's stakeholders and STEM-enabled industry, STEM*florida* announces the 2011 roster of honorees for Best Practices. These best practices will be honored at a Think Tank on June 24 in Orlando hosted by STEM*florida*, Inc. at the Hyatt Regency Orlando International Airport. The roster of honorees represents some of the most promising practices throughout Florida.

The 2011 STEM*florida* Best Practices Honorees are as follows:

Award: Best Pilot Teacher Training Program for Accountability and for Market-Relevant Exposure to STEM Industry Settings, and Utilization of the Educator as a STEM Evangelist

Program/Effort: Teacher Quest Tampa Bay Pilot Program

Honoree(s): Florida Technological Research and Development Authority

<http://theendeavouracademy.com/teacherquest/tampa/index.html>



Award: Excellence in a Targeted Classroom Effort Designed to Focus Specific Intervention Efforts at Core STEM Academic Skills Improvement

Program/Effort: SunBay Digital Mathematics Partnership, Year 2

Honoree(s): SRI International; USF-St. Petersburg

<http://sunbay.sri.com/>

Award: Excellence and Accountability in Targeted STEM Teacher Recruitment and Retention Efforts

Program/Effort: UTEACH

Honoree(s): University of Florida; Florida State University

<http://uteach-institute.org/news/detail/featured-program-fsu-teach-at-the-florida-state-university/>

<http://ufteach.clas.ufl.edu/partners.html>

Award: Best Effort Honoring Florida's Top STEM Scholars and Targeting Retention of Scholars into Florida's Educational Pipeline

Program: Sunshine State Scholars

Honoree(s): Florida Education Foundation

<http://www.floridaeducationfoundation.org/news/florida-education-foundation-hosts-redesigned-sunshine-state-scholars-program>

Award: Best STEM Informational Video Targeting Engagement in a Challenged Target Industry Cluster

Program: Exploring Microgravity (video)

Honoree(s): Space Florida, Inc.

http://www.spaceflorida.gov/images/stories/docs/4_2010%20education%20fact%20sheet.pdf

Award: Best Collaborative Response to Emerging STEM-enabled Industry Needs

Program/Effort: Workshop with Industry Leaders from Water Resources regarding Certifications and Licensures



Honoree(s): Florida Department of Education Career and Adult Education;
Industry Advisory Council of the Employ Florida Banner Center for Water
Resources

www.fldoe.org/workforce/ and www.waterbannercenter.com

**Award: Best Integration of Research-based STEM Efforts with Teacher
Training Targeted at Increased Engagement of an Underserved Population**

Program/Effort: SNMREC Educational Outreach

Honoree: Southeast National Marine Renewable Energy Center at FAU

http://snmrec.fau.edu/SNMREC_Fact_Sheet_STYLIZED.pdf

**Award: Excellence Integrating Needs of STEM-enabled into Engaging
Curriculum and Educational Outreach Resources**

Program/Effort: FLATE Educational Outreach and Integrative Efforts

Honoree: Florida Advanced Technological Education Center (FLATE)

www.fl-ate.org

Award: Excellent Cross-curricular Middle School STEM Academy

Program/Effort: STEM Academy at Greco Middle School

Honoree: Greco Middle School

<http://greco.mysdhc.org/>

Award: Best STEM-enabled Conservation Internship

Program/Effort: Conservation Biology-Botany Internship

Honoree: SCA Student Conservation Association

<http://www.thesca.org/node/127873>

**Award: Excellence in STEM Advocacy in a Large Target Industry Cluster
Company**

Program/Effort: Engagement in Florida's STEM Movement



Honoree: Lockheed Martin

<http://www.lockheedmartin.com/>

Award: Best Sensory STEM Exhibits for Children

Program/Effort: Five Senses Exhibits

Honoree: Explorations Museum

<http://explorationsv.com/>

Award: Best STEM-enabled Lecture Series

Program/Effort: IHMC Evening Lecture Series

Honoree: Institute for Human and Machine Cognition

<http://www.ihmc.us/about.php>

Award: Excellence in STEM Integration in a Cross-Country Research Institute

Program/Effort: Scripps K-12 Student and Teacher Programs

Honoree: Scripps Florida

<http://www.scripps.edu/florida/education/k12/>

Award: Best Regional Collaborative Efforts Prioritizing STEM Across Regional Stakeholders in a Mature Regional Market

Program/Effort: Central Florida Regional STEM Collaboration

Honoree(s): Central Florida Partnership; Central Florida STEM Education Council; and Workforce Central Florida

www.centralfloridapartnership.org; <http://council.stemaid.ucf.edu/>;
<http://www.workforcecentralflorida.com/employer/employer-services/targeted-industries.stml>



Award: Excellence in STEM Integration in Public and Community Outreach and Across Undergraduate Programs

Program/Effort: FIU STEM Educational Outreach

Honoree(s): FIU

<http://www.fiu.edu/>

Award: Excellence Integrating STEM into Experiential Learning in a Magnet School

Program/Effort: Bartow Elementary STEM Academy

Honoree(s): Bartow Elementary Academy, Polk County Schools

<http://www.bartowacademy.com/>

Award: Excellence Integrating STEM into Education Afterschool Programming, K-12

Program/Effort: Mad Science Afterschool Program

Honoree(s): Mad Science

<http://www.madscience.org/locations/southflorida/>

Award: Excellence in STEM-enabled Empowerment for Young Women

Program/Effort: Florida Girls GetIT

Honoree(s): Florida Girls Get IT

http://girlsgetit.org/ggit_home.htm

Award: Excellence Integrating Emerging Needs of a STEM-enabled Industry into Engaging Academy Education

Program/Effort: Gulf Power Academy

Honoree(s): Gulf Power and West Florida High School

<http://www.gulfpower.com/ecodev/academy.asp>;

<http://www.wfhs.net/>



- More -

About STEMflorida, Inc.

STEM is an acronym that stands for Science, Technology, Engineering, and Math. In states and regions around the globe, leaders have reached across jurisdictions and industries to forge alliances, making STEM a table-stake for jobs, capital, and innovation. Urgent calls to action around STEM for the sake of global competitiveness are not new. *Rising Above the Gathering Storm*, a 2005 report requested from the National Academies by Congress described the workforce needs of the 21st century and the nation's current gaps and opportunities in providing the STEM workforce. The need for improving STEM talent development has been highlighted by reports of the Business-Higher Education Forum in 2005 and 2007. STEM received special Congressional attention in the 2011 Congressional budget and the reauthorization plan.

STEMflorida launched in June of 2009, through a \$580,000 grant from Workforce Florida, Inc. (WFI), jointly announced by WFI and Enterprise Florida, Inc. (EFI) for the creation of a statewide STEM council. The joint announcement followed foundational collaborative work with partners across the state, including the Florida Chamber of Commerce, Florida Council of 100, Florida Chamber Foundation, and the Florida Department of Education. At the core of the STEMflorida initiative and movement, a simple intent has guided the effort: ensure leadership for Florida's STEM movement by connecting relevant education and talent development programs, philanthropic stewardship, economic and community development collaboratives and strategy around the demand-side need of Florida's current, emerging, and target STEM employers. On June 24 at its think tank ThinkSTEM in Orlando, STEMflorida, Inc. will launch as the not-for-profit missioned to ensure connectivity and demand-driven action around the priorities of Florida's STEM movement.