

FLORIDA A&M UNIVERSITY

**COLLEGE OF ENGINEERING SCIENCES,
TECHNOLOGY AND AGRICULTURE**

**STRATEGIC PLAN
2010-2014**

CESTA STRATEGIC PLAN 2010-2014

DEAN'S STATEMENT

Efforts for this Strategic Plan for the College of Engineering Sciences, Technology and Agriculture (CESTA) were initiated in June 2009. It has been developed with input from stakeholders (residents of Florida, alumni, faculty, staff, students, local, state and federal government personnel, and others as appropriate). The Plan is envisioned to be a working plan, dynamic enough to address changes that may occur and specific enough to provide direction and be the basis for future decision making. The CESTA Strategic Plan will fit within and support Florida Agricultural and Mechanical University (FAMU)'s Strategic Plan.

Strategic planning is strategic thinking. It identifies existing or accessible resources, comparative advantages, strengths, and opportunities. This plan addresses the opportunities, constraints, and realities of circumstances that may influence CESTA in coming years. In order "to get things done" the faculty, staff, and administration of the College have developed action plans for specific topics/initiatives that have been addressed in the Strategic Plan.

Budget uncertainty may have impact on the resources needed or available to achieve the goals and objectives set forth in the plan. The plan will direct our efforts in acquiring additional resources. It also may be necessary to reallocate existing resources to invest in ongoing, as well as promising new programs, projects, services and activities forthcoming from this strategic plan. This strategic plan is a dynamic plan and roadmap, to guide the direction of CESTA, with administrative support and approval, in meeting the needs of students and others as appropriate during the next five years, positioning the College to move forward from there.

EXECUTIVE SUMMARY

Many changes have occurred during the first decade of the 21st Century at FAMU and in the environment in which CESTA operates. Higher education overall has dramatically changed and will continue to do so. The Kellogg Commission on the Future of State and Land-Grant Universities reviewed critical issues facing land-grant universities (1999). These included: a) access to universities in the face of dramatic demographic changes and fiscal challenges; b) partnerships between universities and the society they serve; c) the societal need for lifelong learning; d) reward and recognition of the creative work of faculty and staff. CESTA has and will continue to change in response to this changing (both internal and external) environment.

CESTA provides the foundation for the land-grant status for FAMU. This Strategic Plan (prepared by CESTA's faculty, staff and students, with stakeholder and administrative input) represents the direction of the College. The Plan (with CESTA's Mission and Core Values and Principles guiding its Vision) focuses on five Strategic Initiatives, each having a set of goals and objectives, strategies for implementation, performance measures, resource needs/allocation, and periodic review schedule will be identified. The Strategic Plan will serve a variety of purposes, including (a) a clearly

defined purpose of CESTA, (b) realistic goals, objectives and strategies for implementation, (c) performance measures to evaluate progress, (d) effective and efficient use of resources, (e) achieve a common mission and vision, and (f) identify and solve major problems. The five Strategic Initiatives are:

A. FOOD SAFETY, SECURITY AND NUTRITION

This initiative seeks to address the ways by which CESTA can improve its contribution to an abundant food supply that is safe, economical and nutritious, and responds to the health challenges facing food producing plants and animals.

- Goal 1: Increase educational instruction, outreach and research in food and animal sciences.
- Goal 2: Promote and strengthen the viticulture and selected crop programs.
- Goal 3: Enhance the biological management of pests for food security.
- Goal 4: Expand the number of students recruited, retained and graduated in the food and animal sciences.

B. RESOURCE CONSERVATION AND RENEWABLE ENERGY

This Initiative supports agricultural practices at multiple scales including conservation, sustainable use and appreciation of our natural resources and the development of sustainable and renewable sources of energy.

- Goal 1: Increase educational instruction, outreach and research in the fields of plant and insect science and natural resources.
- Goal 2: Address the sustainability of water and other natural resources.
- Goal 3: Enhance activities in agriculture and natural ecosystems with particular focus on endangered and invasive species and biodiversity.
- Goal 4: Develop capacity to address key issues in renewable energy.
- Goal 5: Expand the number of students recruited, retained and graduated in the fields of plant and insect science and natural resources.

C. HUMAN DIMENSIONS OF AGRICULTURE AND PUBLIC HEALTH

This initiative is to address the needs and concerns of public health, economics, rural sociology and business as they are related to agriculture.

- Goal 1: Increase educational instruction, outreach and research in the fields of economics, business and rural sociology as they are related to agriculture and the environment.
- Goal 2: Develop safe and effective strategies for the control of arthropods of public health importance.
- Goal 3: Expand the number of students recruited, retained and graduated in agricultural economics and agribusiness.

D. ENGINEERING & TECHNOLOGY

This initiative addresses collaboration and integration of technology in research, teaching and extension.

Goal 1: Increase educational instruction, outreach and research in engineering and technology.

Goal 2: Promote and strengthen applied research in the areas of engineering and technology.

Goal 3: Expand the number of students recruited, retained and graduated in engineering and technology.

E. STRENGTHEN ACADEMIC and ADMINISTRATIVE SUPPORT SERVICES

CESTA is a very diverse entity with teaching, research, extension and international activities. Along this line, there are many overarching activities and support services that are provided by the College administration that are necessary for the operation and growth of the College and the Land Grant Mission of the University.

Goal 1: Increase scholarly activities of faculty, staff and students.

Goal 2: Work with our stakeholders and clientele to promote and use our programs.

Goal 3: Increase the use of Information Technology to improve the administrative, academic and communication infrastructure and processes.

Goal 4: Recruit & retain quality and diverse faculty, staff and students.

Goal 5: Provide quality Professional Development opportunities for faculty, staff and Students.

In conclusion, resource needs to achieve the goals and objectives set forth in this plan will come from many sources, mostly however from continuous state and Federal appropriations; the remainder from faculty and staff successes in grant applications from federal, state and private granting entities and donations and contributions from various sources. The bottom-line, the resources (time and dollars) represent an investment that will reap benefits for CESTA's students and it's many stakeholders and publics. Each of the above initiatives, in addition to goals will have objectives, strategies for implementation and performance measures (PM).

INTRODUCTION and DESCRIPTION of CESTA

Florida Agricultural and Mechanical University (FAMU) is one of this country's more than 100 land-grant colleges and universities. They were originally designated or founded as land-grant institutions for the purpose of teaching agriculture, the mechanical arts, military tactics, and classical studies so that members of the working classes could obtain a liberal, practical education. Today, America's land-grant colleges and universities continue to fulfill their domestic mandate for openness, accessibility, and service to people. Many of these institutions have joined the ranks of this country's most distinguished public research and engaged universities, where millions of students are

able to study every academic discipline and explore fields of inquiry far beyond the scope envisioned in the original land-grant mission.

At FAMU, the College of Engineering Sciences, Technology and Agriculture (CESTA) provides the foundation for its land-grant status. This document, the CESTA Strategic Plan for 2010 to 2014, will identify CESTA's MISSION, VISION, CORE VALUES and PRINCIPLES, and GOALS and OBJECTIVES, focusing on five Strategic Initiatives. These initiatives emerged from:

- I. FAMU's Strategic Plan, with its Mission "... to provide an enlightened and enriched academic, intellectual, moral, cultural, ethical, technological and student-centered environment, conducive to the development of highly qualified individuals who are prepared and capable of serving as leaders and contributors in our ever-evolving society; its Vision to "... provide the citizens of Florida, the nation, and the world with inspirational teaching, relevant research, and meaningful service by offering opportunities to enhance humankind"; and its Core Values of "Scholarship, Excellence, Openness, Fiscal Responsibility, Accountability, Collaboration, Diversity, Service, Fairness, Courage, Integrity, Respect, Collegiality, Freedom, and Ethics."

- II. A CESTA faculty and staff SWOT Analysis, the top three Strengths being (i) a knowledgeable faculty that is diversified in its academic training, experience, research interests and ethnicity/national origin, (ii) CESTA's position as the land-grant portion of FAMU, and (iii) the college's smaller size which stimulates a collaborative spirit and family atmosphere; the Weaknesses will be addressed, (i) some can be dealt with immediately and (ii) others will have to be dealt with throughout the five year period, and probably beyond, of the Strategic Plan; the top three Opportunities being (i) new areas in research and extension, (ii) potential for new stakeholders/clients with industry and government and improved interfaculty cooperation, and (iii) growth in both undergraduate and graduate programs; and the top three Threats being (i) low student enrollment, (ii) budget cuts, and (iii) lack of integration between research, teaching, and extension. (Some exist; will look for opportunities to have more when and where appropriate.)

- III. An Environmental Scan, focusing primarily on garnering the needs of clientele/partners with emphasis on USDA, the National Institute of Food and Agriculture (NIFA), which "supports the nation's food, fuel, and fiber production system and works across the federal science enterprise to provide innovations and needed solutions to other critical issues facing rural communities and American consumers, including (i) Global Food Security and Hunger ..., (ii) Climate Change ..., (iii) Sustainable Energy ..., (iv) Childhood Obesity ..., and (v) Food Safety ...".

MISSION STATEMENT

The College of Engineering Sciences, Technology and Agriculture (CESTA) provides the foundation for the University's status as an 1890 land grant institution. The College is committed to excellence in education, research & discovery and extension & outreach to meet the needs of a diverse population. This is accomplished by preparing students and other clientele to become world class leaders and problem solvers in the fields of food & agricultural sciences and engineering & technology. The College will continue to be on the forefront of research, extension and innovation in areas that have state, national and international significance. Furthermore, the College will continue its focus on meeting the needs of underserved diverse communities, particularly African-Americans.

VISION STATEMENT

The College of Engineering Sciences, Technology and Agriculture at FAMU will be among the leading land-grant colleges in research, teaching and extension programs in food & agricultural sciences and engineering & technology that will address critical and emerging issues in Florida, the nation and the world.

CORE VALUES and PRINCIPLES

The College is led by values and principles inspired by the University seal:

Scholarship (Head)
Citizenship (Hand)

Character (Heart)
Responsibility (Field)

STRATEGIC INITIATIVES

A. FOOD SAFETY, SECURITY AND NUTRITION

This initiative seeks to address the ways by which CESTA can improve its contribution to an abundant food supply that is safe, economical and nutritious, and responds to the health challenges facing food producing plants and animals. In this decade the American food supply has faced many challenges in its interaction with the population. As the percentage of obese persons in the population has increased so has the number of persons utilizing food stamps and other systems designed to fight hunger. As efforts to ensure that the food supply is safe from all threats there have been increased reports of lapses in food safety and in the occurrence of foodborne diseases. Old and new diseases threaten the health and prosperity of plants, animals and humans. As it implements the goals of this strategic initiative CESTA's teaching, research and extension will support efforts to stem the spread of disease and to ensure that our food is safe, economical and abundant.

Goal 1: Increase educational instruction, outreach and research in food and animal sciences.

Objectives

1. To expand the number of students and populations receiving instruction in the principles of good nutrition and the safe handling of foods.
2. To develop food safety research that addresses critical food safety issues in the state of Florida and within populations served by FAMU.
3. To make issues impacting food security and health in populations served by FAMU a priority of the College's research and extension efforts.
4. Address economic issues related to the production of abundant and safe food.
5. Maintain an academic curriculum that remains at the forefront of emerging issues.
6. Initiate and strengthen partnerships with community, state, national, and international clientele.
7. To increase understanding and control of animal diseases and the means by which they may enter our food supply.
8. To increase consumer education about the safe handling of animals and animal products.

Strategies for Implementation

- Recruit and retain faculty capable of expanding the current instruction offered in nutrition, supporting nutrition activities in extension, and conducting nutrition research supportive of improved lifestyles among populations served by FAMU (PM -1, 2).
- Introduce the concepts of good nutrition to ensure that every FAMU student has access to nutrition education (PM 2, 3, 5).
- Integration of the basic principles of food and animal sciences into the curricula of the Division of Agricultural Sciences (PM 2, 3, 4, 5).
- Enhancement of the research and graduate education program in food and animal sciences (PM – 1, 5, 6, 7).
- Enhance the College's research and extension food and nutrition programs that address good nutrition and healthy lifestyles of children and adults (PM 6, 7).
- Enhance the opportunities for faculty, staff, students and cliental to be involved in animal processing (PM 4, 6, 8).
- Educate producers on the animal identification and traceability program (PM 4, 7, 8).
- Enhancement of extension efforts to better educate the public on proper handling of food and animal products (PM 4, 6, 7, 8).

Performance Measures

1. Increase in the number of faculty employed.

2. Increase the number of students receiving instruction in nutrition by 10% per year.
3. Conduct an annual survey of FAMU students and other clientele to determine evidence of lifestyle improvements.
4. Survey the clients receiving assistance in food and animal sciences to document improvements in their quality of life.
5. Successful accreditation of the food science and vet-tech programs
6. Increase the number of research and extension publications in the area of food and animal sciences by 10% per year.
7. Evidence of a 10% increase in knowledge of food products and life style changes by the community.
8. Documented evidence of enhanced and marketed value-added food and animal products.

Goal #2: To promote and strengthen the viticulture and selected crop programs.

Objectives

1. Develop a comprehensive crop breeding, evaluation, and improvement program for Florida grapes.
2. Enhance understanding of the development of new and improved hybrid cultivars for table grapes and value-added products.
3. Enhance the ability to create value added products from viticulture and selected crop programs that meet the needs of clientele.

Strategies for Implementation

- Identify, develop, and evaluate research and best management practices for Florida grapes and selected crops using conventional and biotechnology approaches (PM 1, 2, 3, 4, 5).
- Integrate viticulture and selected crop research and extension activities into the curriculum of the Division of Agricultural Sciences (PM 1, 6, 7).
- Collaborate with stakeholders to promote the adoption of new management and production practices (PM 1, 2, 3, 4, 5, 7).
- Provide technical and economic support services to promote viticulture and selected crop industries (PM 1, 2, 3, 4, 5, 7).

Performance Measures

1. Evidence of increased knowledge of best management practices for Florida grapes and selected crops by students and the community.
2. Increase the percentage of characterized and controlled diseases.
3. Increase the number of crops with improved resistance to disease.

4. Evidence of increased knowledge of plant diseases and prevention measures by students and the community.
5. Increase the number of new patents, fresh and value-added products by 10%.
6. Increase the number of student opportunities and participation in research and extension projects by 25%.
7. Increase external funding/grants by 10%.

Goal 3. To enhance the biological management of pests for food security.

Objectives

1. Implement the USDA road map for integrated pest management (IPM).
2. Implement pest management in organic and low-input, small scale agricultural operations.

Strategies for Implementation

- Identify, develop and evaluate pest management practices for selected crops. (PM 1, 2, 3)
- Integrate pest management research and extension activities into the curriculum of the Division of Agricultural Sciences. (PM 1, 2, 4, 6)
- Collaborate with stakeholders to promote the adoption of new pest management practices to enhance food security. (PM 2, 3, 6).
- Provide technical and economic support services to promote pest management for selected crop industries and small scale operations (PM 1, 2, 3, 5).

Performance Measures

1. Increase the number of research and extension publications in the area of IPM by 10 %.
2. Evidence of increased knowledge and adoption of IPM by clientele.
3. Enhanced production of safer food.
4. Increase the number of students employed by grants and scholarly opportunities.
5. Increase the funding from grants by 10% per year.
6. Increase the number of student opportunities and participation in research and extension projects by 25%.

Goal 4: Expand the number of students recruited, retained and graduated in the food and animal sciences

Objectives

1. Assist in seeking and actively recruiting top quality students to undergraduate and graduate programs.

2. Retain and graduate top quality students.
3. Help prepare K-12 students for post-secondary education in the food and animal sciences.

Strategies for Implementation

- Develop outreach programs that create a pipeline for pre-college students to enter program areas in food, plant and animal sciences (PM 1, 2, 3, 4, 5).
- Assist in placing students and graduates with professional jobs in the field of food and animal sciences (PM 2, 3).
- Assist in promoting, developing and implementing youth programs (PM 1, 3).
- Improve web site visibility and accessibility (PM 4, 5).
- Keep web site up-to-date and enable creation of and access to individual web pages by faculty (PM 4, 5).
- Post course syllabi and upcoming class schedules online for easy access by students (PM 4, 5).
- Insure students matriculate and graduate through mentoring, advisement and participation in discipline related activities and clubs (PM 2, 3 and 5).

Performance Measures

1. Increase student participating in outreach programs by 10%.
2. Increase in number of highly qualified graduate and undergraduate students in food and animal sciences by 10%.
3. Increase in cooperative and experiential learning opportunities.
4. Documentation that students are actively using the College web site to obtain information and access course materials.
5. Increase the number of students graduating in six years by 10%.

B. RESOURCE CONSERVATION AND RENEWABLE ENERGY

This initiative is devoted to providing excellent customer-driven, research-based, education to our students and assistance to our partners and clientele. It will also support agricultural practices at multiple scales including conservation, sustainable use and appreciation of our natural resources and the development of sustainable and renewable sources of energy.

Goal 1: Increase educational instruction, outreach and research in the fields of plant and insect science and natural resources.

Objectives

1. To expand the number of students and other populations receiving instruction in the principles of natural resource conservation and management and renewable energy.

2. To develop research that addresses critical natural resource conservation and management and renewable energy issues.
3. To make issues impacting natural resource conservation and management and renewable energy a priority of the College's research and extension efforts.
4. Address economic issues related to natural resource conservation and management and renewable energy.
5. Maintain an academic curriculum that remains at the forefront of emerging issues.
6. Initiate and strengthen partnerships with community, state, national, and international clientele.

Strategies for Implementation

- Expand faculty and staff participation in research, outreach and instruction in natural resource conservation and management and renewable energy (PM 1, 5).
- Integration of the basic principles of natural resource conservation and management and renewable energy into the curricula of the College (PM 2).
- Enhancement of the research and graduate education program in natural resource conservation and management and renewable energy (PM 3).
- Serve as training centers for students, government employees, farmers and general public (PM 4)

Performance Measures

1. Increase the number of research proposals generated and funded, research publications, patents and technical reports, and presentations provided in scientific and clientele meetings.
2. Increase the use of basic principles of natural resource conservation and management and renewable energy within the College's curricula.
3. Increase the number of students and student interns involved in research, instruction and outreach, including presentations and participation in professional meetings.
4. Increase the number of collaboration and partnerships with stakeholders to promote natural resource conservation and management and development and adoption of renewable energy, and the number of stakeholders receiving assistance in these fields.
5. Increased participation by faculty and staff as documented by AORs.

Goal 2: To address the sustainability of water and other natural resources.

Objectives

1. Conduct basic and applied research to contribute to solution of critical problems in water quality and sustainability of natural resources and the environment.
2. Investigate the extent and sources of agricultural point and non-point pollution of surface and sub-surface water resources, and ways to alleviate them.

3. Conduct education and outreach activities on topics related to the sustainability of water and other natural resources.

Strategies for Implementation

- Expand faculty and staff participation in research, outreach and instruction offered in the sustainability of water and other natural resources (PM 1, 5).
- Integration of water quality into the curricula (PM 2).
- Enhancement of the research and graduate programs in the sustainability of water and other natural resources (PM 3).
- Serve as training centers for students, government employees, farmers and general public (PM 4).

Performance Measures

1. Increase the number of research proposals generated and funded, research publications, patents and technical reports, and presentations provided in scientific and clientele meetings.
2. Increase the number of courses including water quality in the syllabus.
3. Increase the number of students and student interns involved in research, instruction and outreach, including presentations and participation in professional meetings.
4. Increase collaborations and partnerships with stakeholders to promote sustainability of water, other natural resources and renewable energy, and increase the number of stakeholders receiving assistance in these fields.
5. Increased participation by faculty and staff as documented by AORs.

Goal 3: Enhance activities in agriculture and natural ecosystems with particular focus on endangered and invasive species and biodiversity.

Objectives:

1. To enhance and expand activities in invasive/endangered species in concert with the Florida Statewide Invasive Species Strategic Plan and the National Invasive Species Management Plan (2008-2012) (ipm.ifas.ufl.edu/pdf/FL_invasive_species_Strategic_Plan.pdf) and (www.invasivespecies.gov/main_nav/mn_NISC_ManagementPlan.html).
2. To conduct research on pesticide impact on non-target and endangered species to preserve environmental quality.
3. Enhance research in aquatic entomology.

Strategies for Implementation

1. Identify, develop, and evaluate new projects (PM 1).
2. Collaborate with stakeholders to promote and adopt the IPM strategies (PM 2, 3 and 4).
3. Provide technical support services to promote sustainable pest management (PM 3).
4. Develop strong partnerships and collaborations with relevant industries and state, national and international agencies (PM 4).

Performance Measures

1. Increase the number of research proposals generated and funded, including the number of research publications, patents and technical reports, and the number of presentations provided in scientific and clientele meetings.
2. Increase the number of collaboration and partnerships with stakeholders to promote and adopt the IPM strategies.
3. Increase the number of stakeholders receiving technical assistance in sustainable pest management.
4. Increase partnerships and collaborations with relevant industries and state, national, and international agencies.

Goal 4: Develop capacity to address key issues in renewable energy.

Objectives

1. Conduct basic and applied research in renewable energy.
2. Conduct education and outreach activities on topics related to renewable energy.

Strategies for Implementation

1. Identify, develop, and evaluate new projects (PM 1).
2. Develop strong partnerships and collaborations with relevant industries and state, national and international agencies (PM 2)

Performance Measures

1. Increase the number of research proposals generated and funded, including the number of research publications, patents and technical reports, and presentations provided in scientific and clientele meetings.
2. Increase partnerships and collaborations with relevant industries and state, national and international agencies.

Goal 5: Expand the number of students recruited, retained and graduated in the fields of plant and insect science and natural resources.

Objectives

1. Assist in seeking and actively recruiting top quality students to undergraduate and graduate programs.
2. Retain and graduate top quality students.
3. Assist in placing students and graduates with opportunities in discipline areas.
4. Help prepare K-12 students for post-secondary education.
5. Assist in promoting, developing and implementing youth programs.

Strategies for Implementation

- Develop outreach programs that create a pipeline for pre-college students to enter discipline areas (PM 1).
- Improve web site presence and accessibility (PM 2).
- Keep web site up-to-date and enable creation of and access to individual web pages by faculty (PM 2).
- Post course syllabi and upcoming class schedules online for easy access by students (PM 2).
- Insure students matriculate and graduate through mentoring, advisement and participation in discipline related activities and clubs (PM 3, 4 and 5).

Performance Measures

1. The number of pre-college students entering discipline areas as a result of an outreach program.
2. Documentation that students are actively using the College web site to obtain information and access course materials.
3. Increase in number of highly qualified graduate and undergraduate students by 10%.
4. Increase in cooperative and experiential learning opportunities.
5. Increase the number of students graduating in six years by 10%.

C. HUMAN DIMENSIONS OF AGRICULTURE AND PUBLIC HEALTH

This initiative is to address public health and human dimension needs and concerns as they relate to agriculture and the environment.

Goal 1: Increase educational instruction, outreach and research in the fields of economics, business and rural sociology as they relate to agriculture and the environment.

Objectives

1. Expand the number of students and other populations receiving instruction in the areas of agricultural economics and agribusiness.
2. Enhance the level of research and outreach in the fields of economics and rural sociology related to supporting agriculture and the environment with particular focus on the needs of limited resource clientele in Florida and the region.
3. Maintain an academic curriculum that remains at the forefront of emerging issues.
4. Initiate and strengthen partnerships and collaborations with community, state, national, and international clientele and stakeholders.

Strategies for Implementation

- Recruit new faculty capable of expanding the current instruction offered in agricultural economics and agribusiness and support these activities in the areas of extension and research (PM-1)
- Enhance extension and research in the field of rural sociology (PM-2, PM-3)).
- Integrate the basic principles of agricultural economics, rural sociology and agribusiness into the curricula. Enhance the research and graduate education program in agricultural economics and agribusiness (PM-4)

Performance Measures

1. Hire one new faculty member in agricultural economics.
2. The number of clients receiving assistance in the areas of agricultural and environmental economics, rural sociology and agribusiness will increase by 10% per year
3. Number of journal articles and scientific presentations at professional meetings will increase and average at least two professional presentations and one journal publication per faculty member per year
4. Review and update the curricula annually.

Goal 2: To develop safe and effective strategies for the control of arthropods of public health importance.

Objectives

1. Perform basic/applied research, extension, and teaching services on identification, surveillance, biology, ecology and control with special emphasis on integrated pest management (IPM).

2. Perform basic/applied research, extension, and teaching services to develop and test: pesticides, biological agents, repellents, attractants, trapping systems and associated application techniques and procedures.
3. Conduct research to develop pesticide alternatives, reduced-risk pesticides, and precision application techniques resulting in less pesticide use.
4. Provide information, assistance, and recommendations as needed by local, national and international arthropod control and regulatory agencies.
5. Serve as a training center for students, government, military and the general public.

Strategies for Implementation

1. Recruit new faculty capable of conducting teaching, research and extension on molecular biology and insect pathology (PM-1, 2)
2. Identify, develop, and evaluate research projects supporting these objectives. (PM-1, 2, 4)
3. Integrate research and extension into the curricula and increase experiential student learning opportunities (PM- 3, 5).
4. Provide technical support services to promote sustainable pest management (PM-4, 5).
5. Provide an annual training conference and workshops for arthropod control clientele and regulatory agencies (PM-4, 5).
6. Enhance distance communication and education capabilities including online teaching, and virtual meetings employing the latest state-of-the art electronic media (PM 5, 6).
7. Develop strong partnerships and collaborations with relevant industries and state, national and international agencies (PM-1, 3, 4).

Performance Measures

1. The number of research proposals generated and funded will grow and each member of the faculty will average at least two proposals per year and one new funded grant every other year.
2. The number of research publications, patents and technical reports will increase until each member of the faculty makes at least two professional presentations and publishes one journal publication every year.
3. Increase the number of presentations provided in scientific and clientele meetings.
4. Number of students and student interns involved in research, extension and summer learning. Every grant proposal submitted will include funding for at least one graduate student and one undergraduate student.
5. Number of persons attending training conferences, workshops and related educational opportunities for arthropod control clientele and regulatory agencies.

All members of the faculty will attend at least two conferences, workshops or training sessions per year.

6. Increase the present usage of on-line distance learning by at least 10% per year.

Goal 3: Expand the number of students recruited, retained and graduated in agricultural economics and agribusiness

Objectives

1. Assist in seeking and actively recruiting top quality students to undergraduate and graduate programs
2. Retain and graduate top quality students.
3. Assist in placing students and graduates with professional jobs in the fields of agricultural economics and agribusiness.
4. Help prepare K-12 students for post-secondary education in the areas of human dimensions as they related to agriculture.
5. Assist in promoting, developing and implementing youth programs.

Strategies for Implementation

- Develop outreach programs that create a pipeline for pre-college students to enter program areas of agricultural economics and agribusiness. (PM-2)
- Improve web site presence and accessibility (PM-4)
- Post course syllabi and upcoming class schedules online for easy access by students (PM-4).
- Insure students matriculate and graduate through mentoring, advisement and participation in discipline related activities and clubs (PM 3, 4 and 5).
- Assuring that students complete their program in a timely manner (PM-1, 3)

Performance Measures

1. Proportion of students graduating in six years will increase by 10% annually.
2. Increase in number of highly qualified graduate and undergraduate students in agriculture economics and agribusiness. The program will be expected to grow until there are at least 100 undergraduate students on a sustainable basis
3. Increase the number of students involved with cooperative experience by 10% per year.
4. Documentation that students and faculty are actively using the College web site with an average of 100 hits or more per month.

D. ENGINEERING AND TECHNOLOGY

Enable collaboration and integration of technology in research, teaching and extension by providing excellent research-based education to our students and assistance to our partners and supporting technological advances in society as they develop.

Goal 1: Increase educational instruction, outreach and research in engineering and technology.

Objectives

1. Expand the number of students and other populations receiving instruction in the principles of engineering and technology.
2. Maintain an academic curriculum that remains at the forefront of emerging issues.
3. Develop engineering and technology research that addresses critical issues in the state of Florida and other clientele served by the College.
4. Enhance and further integrate engineering and technology into the College's 1890 land grant activities.

Strategies for Implementation

- Recruit and retain faculty capable of expanding the current instruction, research and extension offered in electronic, construction, civil and Biological and Agricultural Systems Engineering (BASE). (PM 1, 4)
- Enhance the College's research and extension efforts in the areas of engineering and technology. (PM 1, 2, 3, 5, 6, & 7)
- Train and encourage collaboration between faculty and staff in implementing 1890 land grant mission. (PM 3, 5, 6 & 7)

Performance Measures

1. Increase & retain the number of faculty that would enhance the quality of the departments by one faculty per department.
2. Increase number of students receiving instruction in engineering and technology by 10% per year.
3. Increase number of clients receiving assistance via engineering and technology extension programs by 5%.
4. Successful accreditation of the engineering and technology.
5. Increase number of research proposal generated and funded with particular emphasis on 1890 land grant programs by 5%.
6. Increase number of research publications, patents and technical reports by 5%.
7. Increase number of presentations provided in scientific and clientele meetings by 10%.

Goal 2: To promote and strengthen applied research in the areas of engineering and technology.

Objectives

1. Promote and enhance the transportation research center.
2. Develop research in construction and robotics that meets the needs of our clientele.
3. Conduct outreach activities to determine the impact of research findings.

Strategies for Implementation

- Integrate transportation, construction and robotic research into the Division's curricula. (PM 1, 2, 3, 4. & 5)
- Collaborate with stakeholders to promote the adoption of solutions to transportation, construction and robotic issues. (PM 2, 4 & 5)
- Increase the number of student opportunities to participate in research and extension projects. (PM 4)
- Provide support services to promote the solutions of transportation, construction and robotic research. (PM 1, 3, &4)
- Perform outreach activities. (PM 2, 4 & 5)

Performance Measures

1. Increase the number of projects researched by 10%.
2. Increase by 5% in number of people that modifies/changes their behavior as a result of the center's initiatives research.
3. Develop new patents and/or value-added products.
4. Increase by 5% the number of students involved in research and extension.
5. Conduct survey to document adoption by clientele.

Goal 3: Expand the number of students recruited, retained and graduated in engineering and technology.

Objectives

1. Assist in seeking and actively recruiting top quality students to undergraduate programs.
2. Retain and graduate top quality students.
3. Assist in placing students and graduates with professional jobs in the field.
4. Help prepare K-12 students for post-secondary education in this field.
5. Assist in promoting, developing and implementing youth programs.

Strategies for Implementation

- Develop outreach programs that create a pipeline for pre-college students to enter program areas. (PM 1, 2, & 4)

- Improve web site presence and accessibility. (PM 4)
- Keep web site up-to-date and enable creation of and access to individual web pages by faculty. (PM 4 & 6)
- Post course syllabi and upcoming class schedules online for easy access by students. (PM 4 & 6)
- Increase the number of student opportunities to participate in engineering and technology instruction, research and outreach. (PM 1, 2, 3 & 5)

Performance Measures

1. Increase by 5% the number of people impacted by an outreach program.
2. Increase number of highly qualified undergraduate students in the field by 10%.
3. Increase the opportunities for cooperative experience by 10%.
4. Documentation that students are actively using the College web site to obtain information and access course materials by monitoring the number of hits.
5. Increase by 10% the number of students graduating in six years.
6. Increase the number of students receiving instruction in engineering and technology by 15%.

E. STRENGTHEN ACADEMIC and ADMINISTRATIVE SUPPORT SERVICES

CESTA is a very diverse entity with teaching, research, extension and international activities. Along this line, there are many overarching activities and support services that are provided by the College administration that are necessary for the operation and growth of the College and the Land Grant Mission of the University.

Goal 1: Increase scholarly activities of faculty, staff and students.

Objectives

1. Increase the number of Scholarship & Fellowship Opportunities for faculty, staff and students
2. Increase the number of Academic, Research and Extension Experiences for faculty, staff and students
3. Provide incentives for Faculty and Staff to obtain degrees in the College
4. Expect and reward scholarly activities of faculty, staff and students
5. Provide support for developing proposals for external funding

Strategies for Implementation

- Provide funds for student scholarships (PM 1).
- Provide larger scholarships in the college (PM 2).
- Share more opportunities for scholarships that are not in the College (PM 3).
- Provide opportunities for students to become involved in teaching, research and extension activities (PM 4).

- Enhance career opportunities for faculty and staff (PM 5)
- Tie scholarly activity to performance (PM 6, 8).
- Increase the amount of externally funded scholarly activity (PM 7).

Performance Measures

1. The Dean will raise more funds that can be used for Scholarships through Public and Private sources from their present level to _____. (\$,TBA,?) DEAN
2. The Dean and Associate Dean will increase the size of half the college's scholarships. (\$,TBA, half) DEAN,ASSOCIATE DEAN
3. The Associate Dean will increase the awareness of scholarships from sources outside the college by overseeing web postings, faculty and staff advisement and a scholarship clearing administrator.
4. The Directors will increase the number of students involved in college level teaching, research and extension activities to 100 students. This will be accomplished in part by insuring students are included in all appropriate grant proposals. (breakout TRE) (#,50,100) DIRECTORS
5. The Associate Dean will provide Scholarships for Faculty and Staff to receive degrees in CESTA (\$,0,half) ASSOCIATE DEAN
6. The Dean will revise and clarify Evaluation and Tenure and Promotion Criteria to raise scholarship to a standard of Excellence (Y/N,N,Y) DEAN
7. The Dean will encourage an increase in the number of proposals submitted and funded ([#sub,#rec,\$],TBA,TBA) DEAN
8. The Dean will assign committees to develop criteria for rewarding scholarly activity. Award Criteria and Committees (Y/N,N,Y) DEAN

Goal 2: Work with our stakeholders and clientele to promote and use our programs.

Objectives

1. Increase the effectiveness and participation of Career/Industry days.
2. Increase opportunities to impart the historical and Current Landgrant missions to the University constituency
3. Increase University collaborative activities in teaching, research, extension and international interests
4. Increase Alumni participation and support of College Programs
5. Increase level of meaningful communications of CESTA programs and activities including traditional and technologically advanced media to share and communicate information
6. Increase funding support for new and emerging areas
7. Assure effective use of college programs
8. Enhance and improve accountability

Strategies for Implementation

- Measure the effectiveness of career/industry days. (PM 1)

- Impart knowledge of the Land Grant Mission (PM 2)
- Develop meaningful partnership with university and other relevant entities. (PM 3)
- Increase alumni involvement with college activities and programs (PM 4, 5)
- Establish advisory groups for appropriate college programs (PM 6)
- Document program accountability and impact (PM 7)
- Allocate resources to improve program impact (PM 8)
- Be accountable to state and federal standards/requirements (PM 9)

Performance Measures

1. Directors will survey at least 80% of those participating in Career/Industry days (% ,TBA,80%) DIRECTORS*****
2. The Dean and Associate Dean will assure that the Land Grant Mission is explained to university personnel and included as a part of faculty/staff/student orientation (Y/N,N,Y) ASSOCIATE DEAN
3. The appropriate administrator will assure meaningful partnerships with University and other relevant entities as they relate to college programs. (#leveragedfacultystaff,TBA,20) ASSOCIATE RESEARCH DIRECTOR
4. Directors will involve more Alumni in student related activities (#,10,50) DIRECTORS
5. The Dean will increase the number (to 100+) and amount of Alumni Donations (to \$10,000+) (#,TBA,100), (\$,TBA,\$10K) DEAN
6. The Dean and other administrators will establish Advisory groups (Y/N,N,Y) DEAN
7. The appropriate administrators will report monthly accomplishments on the web with supporting data. (#,0,1,1/mo on web) ASSOCIATE EXTENSION ADMINISTRATOR
8. The Dean will provide funding for strategic areas (\$,TBA,TBA) DEAN
9. The Dean will develop and implement an accountability process which addresses state and federal accountability measures.

Goal 3: Increase the use of Information Technology to improve the administrative, academic and communication infrastructure and processes

Objectives

1. Increase the use of technology for faculty, staff and student interaction and reporting of accomplishments.
2. Utilize Peoplesoft for academic and administrative processes
3. Develop user friendly paperless College processes, where appropriate
4. Enhance the ability for CESTA inventory to provide location information
5. Provide students, faculty and staff with computing capabilities for administrative, academic and communication
6. Integrate distance learning across academic disciplines.

Strategies for Implementation

- Use technology to better facilitate reporting of faculty, staff and student accomplishments (PM 3, 4)
- Develop centralized electronic document management systems (PM 4)
- Use new and social media to share and communicate information (PM 2)
- Provide training for faculty staff and students on new and social media (PM 2)
- Provide faculty and staff with additional peoplsoft training, including queries (PM 3, 4)
- Build a user-friendly webpage program (PM 1, 2)
- Develop “smart” classrooms and other computer infrastructure. (PM 5)
- Support faculty, staff and student use of distance learning (PM 3, 6)

Performance Measures

1. The Dean will assure the development of a user friendly Website (#updating/mo,1,100) DEAN
2. The Dean and Directors will monitor the use of Facebook (#,~biweekly,~daily), Twitter (#, 0, daily), and Webpage (#updates, TBA, ~weekly) DEAN, DIRECTORS
3. The Dean will provide training to faculty, staff and students for using New Media and distance learning technologies (#trained,0,ALL) DEAN
4. The Dean will provide for Advanced Processes (#processes improved,0,all as appropriate), Document Management System (Y/N,N,Y), Inventory tracking System (Y/N,N,Y) and Accomplishment Reporting System (Y/N,N,Y) DEAN.
5. The Dean will provide for Smart Classrooms, (#, ~8,ALL), Adequate computers for faculty and staff (%adequate,TBA,100%) and computing classroom facilities (#computersforstudents,TBA,100)
6. The Dean will provide release time to faculty to develop distance learning course work.

Goal 4: Recruit & retain quality and diverse faculty, staff and students

Objectives

1. Develop and enhance recruitment and retention activities.
2. Involve all faculty, staff and students in recruitment activities
3. Systematically review and update curricula
4. Enhance and Develop collaborative graduate programs, including but not limited to 5 year Professional Masters and Collaborative Ph.D. degrees
5. Enhance the placement of graduates in career and academic paths.
6. Improve working conditions and compensation for faculty and staff

Strategies for Implementation

- Recruit more graduate students by increasing financial assistance (PM 1, 17).

- Provide additional degree opportunities (PM 2, 18).
- Enhance the quality of degree programs (PM 9 – 11, 18).
- Increase the number of quality graduate and undergraduate students (PM 9 - 13, 17)
- Develop a data driven plan to maximize college recruitment and retention resources (PM 6, 14).
- Build a user-friendly webpage and maximize use of technology for recruitment and retention (PM 3, 7, 8).
- Increase outreach to prospective faculty, staff and students (PM 3, 4, 5, 7, 15).
- Develop generic recruitment material (PM 3, 5 - 8)
- Develop program level recruitment and retention plans (PM 4, 5, 6, 15)
- Improve the career placement of graduates (PM 16).
- Use assessments to keep programs current (PM 9, 10).
- Improve customer relations with students (PM 19).
- Strengthen salaries and support for faculty and staff to nationally competitive levels (PM 20)

Performance Measures

1. The Dean will seek to increase the College's allocation for tuition waivers from 22 to 50 (#,22,50) DEAN
2. The Associate Dean and appropriate Directors will develop professional MS degrees, 5 Year BS/MS and Collaborative Ph.D. (#,1,5) ASSOCIATE DEAN, DIRECTORS
3. The Dean and Associate Dean will develop standard Recruitment Materials, including presentations, talking points, video and web pages for all programs (#,0,All) DEAN, ASSOCIATE DEAN
4. The Associate Dean will oversee the training of Faculty, Staff and Students in recruitment (#,0,All) ASSOCIATE DEAN
5. The Directors will involve Faculty, Staff and Students in recruitment and retention (#,5%,50%) (% ,TBA,75%)DIRECTORS
6. The Associate Dean will develop Recruitment and retention Plans with Baseline data and reports (#,0,1,1/mo on web) ASSOCIATE DEAN
7. The Associate Dean will develop Technology for the Recruitment and retention Plans including social media and web material. College Face book account will grow to 10,000 contacts. (#contact,132,10000) ASSOCIATE DEAN
8. The Dean will improve the relevance and usability of the college Website by increasing the site's accessibility to faculty and staff (#updating/mo,1,100) DEAN
9. The Associate Dean will oversee the routine updating of programs and curricula (#yearlycurriculumreviews,4,All) (#accreditedorequivalent,4,All) ASSOCIATE DEAN
10. The Associate Dean will assure faculty use assesment plans to improve degree programs (#,0,All) ASSOCIATE DEAN
11. Directors will assure that all students are properly mentored, advised and tutored (#,TBA,ALL) Directors

12. The Dean will oversee undergraduate recruitment efforts and increase enrollment from its presently level to 700 students. (#,350,700) DEAN
13. The Dean will oversee graduate recruitment efforts and increase enrollment from its presently level to 50 students. (#,20,50) DEAN
14. The Dean will provide instruction on using People Soft to access student data
15. Directors will develop student recruitment and retention Plans for academic areas (Y/N,Y) Directors
16. The Dean and Directors will track alumni to assist students with internship placement, career development, and graduate and professional school placement. (#placed,TBA,TBA) DEAN
17. The Directors will increase the number of students involved in college level teaching, research and extension activities to 100 students. This will accomplished in part by insuring students are included in all appropriate grant proposals. (breakout TRE) (#,50,100) DIRECTORS
18. The Dean will provide opportunities and training for distance learning.
19. The Dean will conduct exit interviews with graduating students.
20. The Dean will initiate strategies to offer competitive salaries.

Goal 5: Provide quality Professional Development opportunities for faculty, staff and students

Objectives

1. Increase opportunities for professional development for students, faculty and staff
2. Encourage staff and faculty to pursue graduate and undergraduate degrees
3. Encourage faculty to become professionally licensed if appropriate

Strategies for Implementation

- Encourage professional development for students (PM 1, 3).
- Encourage professional development for faculty and staff (PM 2-6).
- Train faculty, staff and students in the use of new media and technology (PM 3).
- Improve faculty and staff leadership skills (PM 2, 4, 5).

Performance Measures

1. The Associate Dean will implement Collegewide curriculum based professional development (Y/N,N,Y) ASSOCIATE DEAN
2. Directors will provided professional Development opportunities for faculty/staff (#opportunities,TBA,TBA) DIRECTORS
3. The Dean will provide opportunities for New Media and technology training (#trained,0,ALL) DEAN
4. Encourage Faculty and Staff to enroll in degree granting programs at FAMU (#,TBA,TBA) SUPERVISORS
5. The Directors will provide Leadership training opportunities (#opportunities,TBA,TBA) DIRECTORS

6. The Directors will provide opportunities for Faculty and Staff to become professionally licensed (#,2,TBA) DIRECTORS

Funding Needs, Sources and Allocation

To achieve the goals and objectives set forth in this Strategic Plan will require millions of dollars, mostly coming from the following sources:

- State of Florida Education and General Funds
- United States Department of Agriculture (Evans-Allen Research and 1890 Extension formula funds, Capacity Building grants, NIFA competitive grants, etc.)
- Other federal, state and local agencies
- Private industry sector
- Foundations
- Alumni
- Donations

These dollars will be allocated as needed to:

- Recruit and hire personnel
- Enhance professional development
- Acquire state of the art technologies and laboratory/classroom equipment
- Renovate existing laboratories and classrooms
- Meet other infrastructure needs
- Recruit and retain students
- Meet other needs as identified in the Strategic Plan

Tracking, Monitoring and Evaluation

Allocation of CESTA's human, physical and fiscal resources is a responsibility of the administration. As previously stated, new opportunities and constraints on resources may result in systematic changes in the allocation of resources to meet CESTA's goals and objectives during the Strategic Plan years. That being the case, the criteria for the evaluation of programs, projects, services and activities under each strategic initiative does the following:

- Makes a significant contribution to CESTA's mission.
- Has good student interest as measured by enrollment.
- Has significant availability of funding from various sources.
- Has a record of past and established success and strengths.
- Supports graduate programs.
- Is relatively unique in Florida and the region

- Provides job opportunities for graduates.
- Is cost effective.
- Has significant impact on clientele.

This tracking, monitoring and evaluation system should occur quarterly but not less than twice per year. Because this is a dynamic plan, CESTA’s administrators should be involved in the process, providing leadership and encouraging /requiring others to do likewise.

Appendices

The Strategic Initiatives that appear in this Strategic Plan were selected by CESTA’s faculty, staff, students and administrators with input from stakeholders and others. A SWOT analysis and Environmental Scan were used in the process. Leadership during the Strategic Planning Steering Committee and the Strategic Initiative Subcommittee as listed below:

Strategic Planning Steering Committee

Lee Anderson (Chair)
 Margaret Gitau
 Vonda Richardson
 Gnanasigamani Bellarmine
 Harry Zhong
 Michael Thomas
 Samuel Donald (Consultant)
 Makola Abdullah (Ex-Officio)

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 Vonda Richardson (Ex-Officio)
- B. Agriculture, Natural Resource Conservation and Renewable Energy
 Lester Muralles Jennifer Taylor Lambert Kanga
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 Michael Thomas (Ex-officio)
- C. Emerging Issues in Agriculture and Industry
 Sandra Thompson Jack Petersen (chair) John Smith
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- D. Engineering and Technology
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