

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida IFAS
Issue Title:	Water Quantity/Quality Best Management Practices (BMP) Team
Priority Number	
Recurring Funds Requested:	\$2,507,945
Non-Recurring Funds Requested:	
Total Funds Requested:	\$2,507,945
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for 2017-2018	<input checked="" type="checkbox"/>

- I. Description - 1.** Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2015 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? **2.** Describe any projected impact on academic programs, student enrollments, and student services.

Currently, UF/IFAS does not have an organizational structure to provide a truly state-wide Best Management Practices (BMP) extension and research program. **This project will provide the organizational structure to coordinate activities of associated state and county faculty and facilitate improved extension and research of water quantity and quality BMP related activities.**

The Florida Legislature has passed, and the governor has signed a comprehensive water policy bill that will help restore the quality and grow the supply of our water resources. Among other things, this law requires enhanced implementation assurance of (BMPs) by Florida Department of Agriculture and Consumer Services (FDACS /OAWP) and further development of agricultural water quality monitoring by the Florida Department of Environmental Protection (FDEP). UF is a comprehensive learning institution built on a land grant foundation. The mission of the UF Institute of Food and Agricultural Sciences (UF/IFAS) is to develop knowledge in agricultural, human and

natural resources and the life sciences and to make that information accessible.

FDACS/OAWP is requesting information from UF/IFAS on water quality impacts of current nutrient management recommendations and gaps in data to develop additional recommendations for possible future funding. Additionally, FDEP is requesting information on projects designed to reduce nutrient loading across regional areas at the watershed scale that have potential to provide significant steps toward meeting Basin Management Action Plan (BMAP) and Total Maximum Daily Load (TMDL) goals. **UF/IFAS is the only institution with the ability to increase assistance to agricultural producers to implement additional BMP requirements of FDACS/OAWP and FDEP, focused on improved technology and innovative practices to help preserve and protect Florida's water resources.**

- II.** *Return on Investment - Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.*

Program outcomes: As in past years, performance data in the form of pre and post testing will be used to improve the grower education programs and determine the information needs of grower in further education programs. Surveys on grower experience and expectations from UF/IFAS BMP education will be conducted to improve programs and determine needs for demonstration and research projects.

To evaluate the effectiveness of the meetings and the level of knowledge gained by the participants, testing of participants prior to and after the meetings and workshops (Pre- and Post-testing) was utilized. On average, 80% of the audience improved their knowledge of BMPs, and 50% of the audience was likely to implement additional or improve current BMPs in their production.

Growers of Florida will benefit from improved educational training, on-farm demonstrations and more coordinated research projects. The citizens of Florida will benefit from reduced impact of agriculture on water quantity and quantity.

FDACS and FDEP, in partnering with UF/IFAS, will provide resources as well as contributing part of the funding for the total cost of the program.

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.				
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida
Issue Title: Water Quantity and Quality
 Best Management Practices Support

	RECURRING	NON- RECURRING	TOTAL
<u>Positions</u>			
Faculty	5.00	0.00	5.00
Other (A&P/USPS)	25.00	0.00	25.00
	-----	-----	-----
Total	30.00	0.00	30.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$375,000	\$0	\$375,000
Other (A&P/USPS)	\$955,233	\$0	\$955,233
	-----	-----	-----
Total	\$1,330,233	\$0	\$1,330,233
	=====	=====	=====
Salaries and Benefits	\$1,613,945	\$0	\$1,613,945
Other Personal Services	\$0	\$0	\$0
Expenses	\$894,000	\$0	\$894,000
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$2,507,945	\$0	\$2,507,945
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida IFAS
Issue Title:	Invasive Wildlife Response Program
Priority Number	
Recurring Funds Requested:	\$702,976
Non-Recurring Funds Requested:	
Total Funds Requested:	\$702,976
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for 2017-2018	<input checked="" type="checkbox"/>

- I. Description** – 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2015 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

This request is for an integrated research and extension program for invasive wildlife to be based at the Southwest Florida Research and Education Center (SFREC) and the Fort Lauderdale Research and Education Center (FLREC). This program will provide natural area managers and private landowners with scientific information to contribute to development of effective control methods for invasive wildlife that threaten ecosystem health and economic sustainability. This program also will provide baseline data to determine impacts of exotic wildlife species on native fauna and ecosystems within State and private lands. This budget request will build a world-class integrated research and extension program to provide an early detection, rapid response, and containment capacity for South Florida that could serve as an example for Florida, the United States, and the rest of the world.

Florida has more nonnative reptiles and amphibians than anywhere else in the world with more than 140 introduced species and more than 50 that are established (i.e., breeding). South Florida is particularly susceptible to nonnative invasions as a result of its subtropical climate, peninsula geography, major ports of entry for plants and animals, thriving trade in exotic pets, and occasional hurricanes which increase the risk of escapes. Invasive wildlife species present a potential threat to a multi-billion-dollar effort to restore Greater Everglades ecosystems and a potential for economic damages to private landowners.

Methods to intercept, eradicate, or contain these invaders have not kept pace with the increasing threat. When screening fails and species become introduced or established, early detection and rapid response (EDRR) efforts increase the likelihood that invasions will be successfully contained or eradicated while populations are still small and localized. Populations of invasive species that are established and widespread require expensive, long-term management programs for control, containment, and protection of vulnerable resources such as listed species. Recent proliferation of scattered sightings of invasive wildlife, especially reptiles, place South Florida at the frontline of invading wildlife.

Establishment and spread of invasive species such as Burmese pythons, Nile monitors, and Argentine black and white tegus could compromise the ecological integrity of the region, threaten the well-being of residents and tourists, as well as cause economic damages to agricultural and residential operations. **This request will build capacity for early detection, rapid response, and containment of invasive wildlife in Florida by producing wildlife biologists trained in the latest developments of invasive wildlife management, as well as a state-of-the-art template for invasive wildlife management that can be applied throughout Florida.**

- II. **Return on Investment** - *Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.*

There are several ways to evaluate return on investment for an integrated invasive wildlife response program for South Florida should we obtain funding. For example, invasive aquatic species present a threat to successful ecological restoration of greater

Everglades ecosystems. **The greatest return on investment comes from preventing establishment and spread of invasive species.**

Everyone in Florida benefits from management of invasive wildlife. In addition to direct damage to natural ecosystems and native biological diversity of Florida, invasive wildlife can also damage recreational and commercial activities that depend upon them. Invasive wildlife can potentially directly impact residents and tourists in Florida by causing the following:

- Power outages,
- Crop and livestock damage,
- Transmission of disease and parasites,
- Damage to water control structures, and
- Injury to humans through poison, venom, or direct attacks.

Prevention of establishment and spread of invasive wildlife offers the best protection to everyone living in and visiting Florida.

10 Graduate Students

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.				
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University:

UF/IFAS

Issue Title:

**Invasive Wildlife Response Program
in South Florida**

	RECURRING	NON-RECURRING	TOTAL
<u>Positions</u>			
Faculty	0.00	0.00	0.00
Other (A&P/USPS)	2.00	0.00	2.00
	-----	-----	-----
Total	2.00	0.00	2.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$0	\$0	\$0
Other (A&P/USPS)	\$104,000	\$0	\$104,000
	-----	-----	-----
Total	\$104,000	\$0	\$104,000
	=====	=====	=====
Salaries and Benefits	\$142,376	\$0	\$142,376
Other Personal Services	\$360,600	\$0	\$360,600
Expenses	\$120,000	\$0	\$120,000
Operating Capital Outlay	\$80,000	\$0	\$80,000
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$702,976	\$0	\$702,976
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida IFAS
Issue Title:	Suwannee Valley Agricultural Extension Center Improvements
Priority Number	
Recurring Funds Requested:	\$372,000
Non-Recurring Funds Requested:	\$1,617,000
Total Funds Requested:	\$1,989,000
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for 2017-2018	<input checked="" type="checkbox"/>

I. Description - 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2015 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

1. **This proposal is developed to enhance the facilities, infrastructure, equipment, and support staff at the Suwannee Valley Agricultural Extension Center (SVAEC), a 300-acre Extension demonstration unit of the University of Florida’s Institute of Food and Agricultural Sciences (UF/IFAS).** The primary mission of the SVAEC is to develop and demonstrate technology and agricultural enterprises appropriate to meet the needs of the clientele in the Suwannee Valley area of Northeast Florida. To accomplish this mission, applied research and demonstration programs are in place or are being planned toward the development of an interdisciplinary farming systems research and extension approach, including agricultural economics and marketing to solving problems of farmers on their farms.
2. This overall one-time investment in facilities, equipment, and the covered educational pavilion would improve our ability to meet the increased demand for services. The facilities would be more comfortable and functional for attendees, and significantly increase participation in current

trainings as well as attract new training sessions previously not considered due to inadequate meeting space. Additional support personnel and increased annual operating funds are essential to handle the large increase in both research and educational activities at this Center. The SVAEC has received nearly twice as many requests for space for new research projects in the past 1-2 years than in years past. New projects feature water and nutrient management, and the development of new specialty crop production systems. There are currently about 50 distinct projects at the Center and at least 20 have been initiated in the last 2 years.

II. Return on Investment - *Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.*

Performance data from past programs is used to make improvements in existing programs and to gain suggestions on implementing new programs. Many evaluation tools are used to measure the success of programs, including pre and post-tests, follow up surveys and personal interviews. These evaluation results from attendees are combined with the input from the SVAEC's regional advisory committee (20 members from across several clientele groups) to improve the quality of existing programs and to initiate new programs.

The primary beneficiaries will be students from UF and other universities as well as the 8,833 farmers (18% of all farmers in Florida) in the Suwannee Valley region. However, the research and education programs developed at this center will have far reaching implications to all citizens in the Suwannee Valley area due to the critical work being conducted on the water resources for this area. In addition, much of the research on alternative crops and systems, and integrated pest management strategies will result in new and profitable enterprises for farmers in the rural communities throughout this area.

The Center hosted the work of at least 25 graduate students and 3 UF student interns. These improvements would increase our capacity for additional student involvement **up to 50%** as well as providing additional opportunities for research. We have also hosted summer interns from UF/IFAS, an international student from France and a student from Abraham Baldwin Agricultural College.

The faculty at SVAEC also serve as special project mentors for students in the UF/IFAS Agricultural Education and Communication department. We host a number of events at SVAEC such as:

- A one-day educational field trip for the UF/IFAS Horticultural Department, Protected Agriculture course of **35 students**
- An educational tour for UF/IFAS Youth Institute (**22 future UF students**) teaching students about modern agricultural practices, technology and research programs
- Doctor of Plant Medicine Capstone Course field trip (**8-10 students**)

- **1,500-2,000** elementary school youth annually in the fall to teach youth about agriculture in the region in conjunction with County 4-H programs
- 4-H Summer Day Camps with several agricultural related educational themes (vegetable crops, insects, hydroponics, agronomy, etc.)

Additionally, SVAEC works with several high school FFA projects throughout the region teaching students about greenhouse vegetables, best management practices, conserving water in agriculture, etc. Extension agents host classes at SVAEC as well as go to schools for guest lectures and field days. SVAEC is also working on planning future 4-H training projects and opportunities to enhance statewide 4-H and Youth educational opportunities including: tractor and ATV safety, agricultural land ecosystems education, and water resource training. The new resources would enable us to increase our capacity for this type of activities **by 15% to 25%**.

These rural communities depend on a strong and profitable agricultural industry. The new and increased level of UF/IFAS research and educational outreach planned at this Center will assure a sustainable agricultural region and at the same time, help protect the sensitive natural resources of the region. Many of the specialized trainings for small, new, beginning, and other underserved farmers are very unique in the entire southeastern US, but in particular, the Small Farms Academy programs will attract attendees from throughout the state of Florida. There is no other UF unit specializing in the development of curriculum for these classes like SVAEC.

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.	Suwannee Valley Extension Center Improvements	2017-18	1,617,000	
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida/IFAS
Issue Title: Suwannee Valley Agricultural Extension Center Improvements

	<u>RECURRING</u>	<u>NON-RECURRING</u>	<u>TOTAL</u>
<u>Positions</u>			
Faculty	0.00	0.00	0.00
Other (A&P/USPS)	3.00	0.00	3.00
	-----	-----	-----
Total	3.00	0.00	3.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$0	\$0	\$0
Other (A&P/USPS)	\$107,143	\$0	\$107,143
	-----	-----	-----
Total	\$107,143	\$0	\$107,143
	=====	=====	=====
Salaries and Benefits	\$150,000	\$0	\$150,000
Other Personal Services	\$25,000	\$0	\$25,000
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$197,000	\$0	\$197,000
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
Fixed Capital Outlay	\$0	\$1,617,000	\$1,617,000
	-----	-----	-----
	\$0	\$0	\$0
	-----	-----	-----
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$372,000	\$1,617,000	\$1,989,000
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida IFAS
Issue Title:	Upgrade SW Florida Research & Education Center
Priority Number	
Recurring Funds Requested:	
Non-Recurring Funds Requested:	\$1 million
Total Funds Requested:	\$1 million
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for 2017-2018	<input checked="" type="checkbox"/>

I. Description - The Southwest Florida Research and Education Center (SWFREC) in Immokalee conducts high priority research, extension and teaching functions to generate new technologies to solve problems related to agricultural production and protection of natural resources. The requested funding would allow renovation of the experimental fields used to train graduate students and the agriculture industry. The renovation would include automation of irrigation and drainage systems and improved mechanization of field operations to facilitate cutting-edge research and graduate student training.

II. Return on Investment - SWFREC serves a diverse set of needs for the area agricultural industry, students and the community. Courses include invasive wildlife species, principles of economics, supervisory techniques, improvement of water quality, water conservation, vegetable and herb production, citrus and alternative crop production including organics, principles of composting, soil microbiology, plant physiology, biological pest control, plant disease diagnostics, insect and mite identification and management, and improved irrigation and nutrient management. Students experience hands-on training via lab sessions and field trips. These programs are greatly enhanced by post-docs and visiting professors. During the next couple years, more than 20 MS and PhD graduate students will utilize the experimental fields to conduct thesis and dissertation research and assist with teaching of classes. These students deserve modern, automated research plots utilizing precision agricultural methodologies.

The Return on Investment for this project will increase our ability to demonstrate the efficiency and effectiveness of the latest technology, help increase agricultural

production which means an economic boost. It will also enable us to teach our students the latest in research and agricultural production, thereby graduating top students prepared to be competitive in the workforce.

The SWFREC, located just north of Immokalee, is one of 13 University of Florida research and education centers. It is located in one of the richest and most vibrant agricultural communities in the entire country. The 5-county area (Collier, Lee, Charlotte, Hendry and Glades) produces sweet oranges for juice processing as well as nearly 80% of the tomatoes and other fresh vegetable sold during winter to NE US markets. Cattle ranchers, sugarcane and ornamental plant growers collectively generate an additional \$1 billion in farm sales. The economic impact, which includes food processing, agricultural input and service companies, as well as natural resource base industries, more than \$6 billion of total annual economic activity statewide is connected to SW Florida agriculture.

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.	Renovate Student Research Fields	2017-2018	\$1 million	
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida/IFAS
Issue Title: Upgrade SW Florida Research & Education Center

	<u>RECURRING</u>	<u>NON- RECURRING</u>	<u>TOTAL</u>
<u>Positions</u>			
Faculty	0.00	0.00	0.00
Other (A&P/USPS)	0.00	0.00	0.00
	-----	-----	-----
Total	0.00	0.00	0.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$0	\$0	\$0
Other (A&P/USPS)	\$0	\$0	\$0
	-----	-----	-----
Total	\$0	\$0	\$0
	=====	=====	=====
Salaries and Benefits	\$0	\$0	\$0
Other Personal Services	\$0	\$0	\$0
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
Repair & Maintenance	\$0	\$1,000,000	\$1,000,000
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$0	\$1,000,000	\$1,000,000
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida IFAS
Issue Title:	Tropical Research & Education Center
Priority Number	
Recurring Funds Requested:	\$0
Non-Recurring Funds Requested:	\$3,917,585
Total Funds Requested:	\$3,917,585
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for 2017-2018	<input checked="" type="checkbox"/>

- I. Description** - 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2015 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

The Tropical Research and Education Center (TREC) has been a member of the south Florida community for 87 years. Unfortunately, TREC has inadequate resources to serve the growing research and education needs of the community. Upgrades and renovation to TREC's campus would greatly improve responsiveness to its clientele.

A new lab will provide much needed space for our faculty and students, enabling complimentary research to take place such as agricultural and biological engineering, environmental horticulture, entomology and nematology, plant pathology, plant breeding and more.

- II. Return on Investment** - Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.

Miami-Dade County's Agricultural industry is one of the most diverse in the country. Our tropical climate provides us with a year-round growing season, as well as the ability to produce an extremely wide range of crops in the vegetable, tropical fruits, ornamentals, bio-fuel plants and natural resources. It employs more than 20,000 people and produces more than \$2.7 billion in economic impact each year. Agriculture is a valuable resource for Miami-Dade County, being the 2nd largest agricultural industry in the State of Florida. Coupled with the economic benefits are environmental and aesthetic advantages.

These upgrades will increase agricultural production through research that includes management of pests and diseases, drought resistant tolerant crops and higher production with reduced irrigation and fertilizers, and flood tolerant crops due to water intrusion. Also, development of new crops from TREC's plant breeders, will provide growers with new plant options. In turn, the efforts to decrease production costs and losses and increase crop production will provide a boost to the economy. They will also provide more space for high tech research, opportunities and hands on experience for students.

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.	Lab	2017-18	\$2,917,585	1
2.	Green Houses and Shade Houses	2017-18	\$600,000	2
3.	Graduate Residence	2017-18	\$400,000	3

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida
Issue Title: UF-IFAS-TREC

	RECURRING	NON- RECURRING	TOTAL
<u>Positions</u>			
Faculty	0.00	0.00	0.00
Other (A&P/USPS)	0.00	0.00	0.00
	-----	-----	-----
Total	0.00	0.00	0.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$0	\$0	\$0
Other (A&P/USPS)	\$0	\$0	\$0
	-----	-----	-----
Total	\$0	\$0	\$0
	=====	=====	=====
Salaries and Benefits	\$0	\$0	\$0
Other Personal Services	\$0	\$0	\$0
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
Fixed Capital Outlay	\$0	\$3,917,585	\$3,917,585
	-----	-----	-----
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$0	\$3,917,585	\$3,917,585
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Operating Budget Issue
Form I**

University(s):	University of Florida
Issue Title:	Florida Engineering Experiment Station (FLEXStation) Applied R&D to Support Florida High Tech Industry and Grow Jobs
Priority Number	
Recurring Funds Requested:	\$2,000,000
Non-Recurring Funds Requested:	\$ 500,000
Total Funds Requested:	\$2,500,000
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for 2017-2018	<input checked="" type="checkbox"/>

I. Description With assistance from the University of Florida Institute for Food and Agricultural Sciences (IFAS), the state of Florida has become a national leader in food production. The goal of this initiative is to help Florida become a national leader in the high tech industry using the same model as was successful in agriculture - leveraging applied R&D and extension services to benefit Florida industry. In order to generate an economy based on high paying high tech jobs, it will be necessary for the state to provide the same level of support as was provided to agriculture and as is being provided by other states with which our state must compete. Beginning in 2014/2015, the UF College of Engineering is utilizing part of its IT Performance Funds to seed the Florida Engineering Experiment Station (FLEXStation). With further funding for program expansion, and using IFAS as a guide, Florida can become a global center for high tech development along the lines of successful examples in Texas and Georgia.

High tech industry needs two key elements that UF can provide: a strong, nationally competitive STEM talent pipeline and access to cutting edge training, facilities, and expertise. Currently UF and other institutions in the state are providing high quality tech talent, but access to facilities and expertise is not systematic. Other states that are successfully competing for high tech industry have proven the effectiveness of Engineering Experiment Stations which provide this type of assistance. Two of the most successful examples are Texas and Georgia. In 2015, the Texas Engineering Experiment Station (TEES) carried out

4,838 research projects, worked with 3,045 industrial research sponsors, and supported 1,302 students in research activities. TEES leverages every \$1 it receives in state support into \$18 of federal and private resources. In 2014, the Georgia Tech Research Institute (originally named the Georgia Engineering Experiment Station) leveraged each \$1 in state support into \$20 in other funding, including \$303M in federal and private sector research support. If Florida is to become a true leader in the innovation economy, we must provide similar types of programs for Florida's industry. As Florida's Land Grant Institution and home to the largest College of Engineering in Florida, and one of the largest in the nation, UF should provide these opportunities for Florida. The FLEXStation will accomplish this mission using two approaches.

The first approach is through a network of FLEXStation extension offices strategically placed to serve high tech industry across Florida. These "UF Innovation Stations" will serve every county of the state in developing nascent local high tech industry and in recruiting existing companies to the region, and the first of these Innovation Stations was launched in Sarasota County in March 2016. FLEXStation will work closely with local and statewide economic development organizations to provide training and expertise to potential high tech entrepreneurs wherever they may live in Florida, enable Florida industry to tap into the expertise of engineering faculty on a consulting basis, and expand the transfer of talent and ideas to the marketplace by creating new facilities and opportunities for students, faculty and industry to prototype technology ideas and rapidly develop business cases for those deemed most commercially viable. This program will also provide industry tailored on-campus and on-line continuing education as needed by Florida's industry.

The subject of this Legislative Budget Request, and the second approach to accomplishing the FLEXStation economic development mission, is in establishing the Florida Applied Research Enterprise (FLARE) within FLEXStation to provide development and applied research services to Florida industry, leveraging federal funding, on a contract basis to facilitate product and project development and technology commercialization. FLARE will be established to handle both proprietary and ultimately classified R&D. The Georgia Tech Research Institute, on which this program would be modeled, currently generates over \$300M in research expenditures per year for an annual state investment of ~\$6M, with 95% of funding from Federal sources. FLARE will secure significant federal research investment, but unlike GTRI will also focus on contract work for Florida's industry. Standard academic research is expected to be publishable in the open literature and generally does not address the more short term needs of industry. By providing appropriate expertise along with access to our state of the art facilities, and complimenting UF's world-class research groups such as the Florida Institute for Cybersecurity Research (FICS), UF can provide tremendous service to companies. Information technology / cybersecurity and defense / aerospace would be areas of initial emphasis for FLARE. Each of these two areas

would be staffed by three research scientist and one research technician who would be responsible for conducting applied research in their areas. As demand for their services grows, further expansion of personnel in these areas would be funded by external sources such as industry or federal agencies.

The Dean of the UF College of Engineering provides ultimate oversight for FLEXStation while day to day operation is overseen by the FLEXStation Executive Director. No additional compensation is required as these positions currently exist. FLEXStation will comprise four administrative components: Florida Engineering Experiment Station Network, Florida Applied Research Enterprise, FLEXStation Business Office and the UF Engineering Innovation Institute. The Innovation Institute already exists and provides entrepreneurship education to UF students, faculty and alumni and the first engineering extension office of the FLEXStation Network has been launched. Thus funding of FLARE enables leveraging of the programs and infrastructure already funded in the Engineering Innovation Institute and FLEXStation Network. FLEXStation will be housed in the Herbert Wertheim Laboratory for Engineering Excellence on the UF campus.

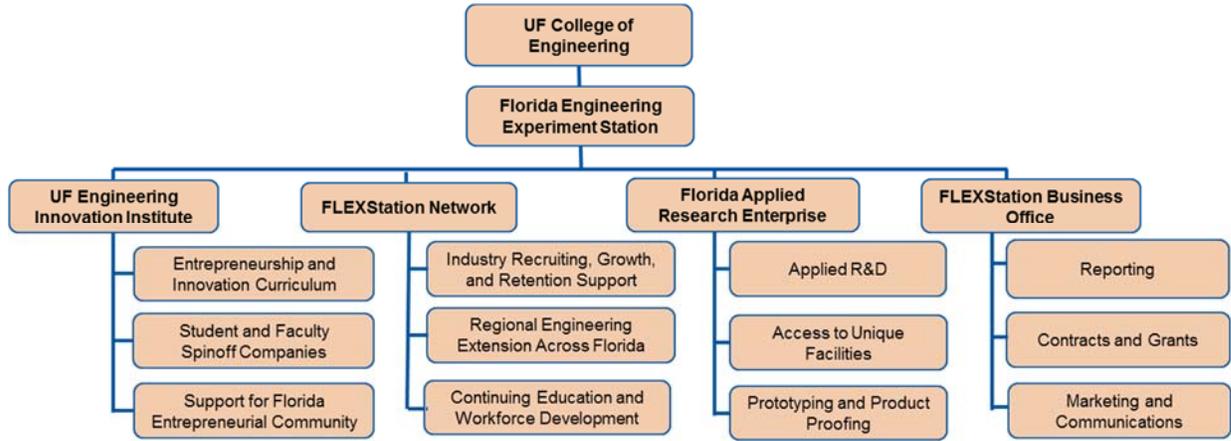
Requested support covers salaries for staff and research scientists and costs for initial laboratory renovations. UF will provide funding for initial equipment and other laboratory related operating expenses from current IT Performance funds.

II. Return on Investment

FLARE will provide Florida industry with direct access to development and applied research expertise. Initial target fields will be in information technology/cybersecurity and aerospace/defense, critical areas for growth of Florida's economy. High tech industry in the state will receive an unparalleled level of support with access to world class facilities and outstanding faculty and students and the state will reap substantial economic impact and jobs. As a result, this program is expected to produce in five years:

- an increase of \$10M in annual industry support for research
- a three to one leveraging of federal research dollars to state funds in applied research and development
- assistance to Florida industry through access to university facilities and expertise

FLEXStation Functional Organization Chart



III. Facilities *(If this issue requires an expansion or construction of a facility and is on the Capital Improvement List complete the following table.):*

**2017-2018 Legislative Budget Request
 EDUCATIONAL AND GENERAL
 POSITION AND FISCAL SUMMARY
 Operating Budget Form II**

University: University of Florida
Issue Title: Fla Engineering Experiment Station (FLEXStation)

	RECURRING	RECURRING	TOTAL
<u>Positions</u>			
Faculty	7.00	0.00	7.00
Other (A&P/USPS)	6.00	0.00	6.00
	-----	-----	-----
Total	13.00	0.00	13.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$1,080,000	\$0	\$1,080,000
Other (A&P/USPS)	\$450,000	\$0	\$450,000
	-----	-----	-----
Total	\$1,530,000	\$0	\$1,530,000
	=====	=====	=====
Salaries and Benefits	\$2,000,000	\$0	\$2,000,000
Other Personal Services	\$0	\$0	\$0
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$0	\$500,000	\$500,000
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$2,000,000	\$500,000	\$2,500,000
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s): University of Florida	
Issue Title:	Institute for Comparative Veterinary Diagnostics- UF CVM
Priority Number	
Recurring Funds Requested:	\$3,000,000
Non-Recurring Funds Requested:	\$3,300,000
Total Funds Requested:	\$6,300,000
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for Fiscal Year 2017-2018	<input checked="" type="checkbox"/>

- I. Description** – 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2016 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

Without exception, each of the top tier US colleges of veterinary medicine boasts a highly successful, highly visible, and highly respected diagnostic laboratory. Although UF-CVM has an exceptional curriculum, an enviable hospital and clinical caseload, and an increasingly noteworthy research enterprise, we simply cannot expect to achieve top-tier status among our peer institutions in the absence of preeminent laboratory diagnostics.

Existing animal health diagnostic laboratories at UF-CVM were established in a different era with a different set of problems, with the primary purpose of supporting the UF Veterinary Hospitals and the UF-CVM research enterprise. However, in the face of constantly increasing risks from emerging infectious diseases, most of which are zoonotic, and rapidly growing importance of contemporary health management in Florida's livestock, equine, companion animal, wildlife, and aquatic animals, we find ourselves at a crucial crossroads. As a preeminent land-grant institution, UF should rightly assume a key role in providing the diagnostic science to address emerging

threats such as Zika virus, avian influenza, West Nile virus, dengue fever, chronic wasting disease, Lyme disease, E. coli, leprosy, leptospirosis, and other food- and water- borne illnesses. Establishing UF-CVM leadership in comparative veterinary diagnostics would indeed be timely.

This LBR seeks to create the first-of-its-kind *Institute for Comparative Veterinary Diagnostics* at the UF-College of Veterinary Medicine. Admittedly, numerous animal disease diagnostic laboratories exist across the US and around the world. However, several features will make the new *Institute* at UF-CVM truly singular:

- We will focus on a blend of innovative research related to creating, validating, and applying animal health diagnostics, across species, to address critical real-world problems in Florida.
- Building on the industry-leading success we have achieved in the UF Veterinary Hospitals, we will develop a successful business model for uncompromising customer service while providing world-class diagnostics in an academic environment.
- We will have the ability to draw on deep, rich, widely-respected academic traditions and resources in *both*
 - UF Health Science Center's six colleges for expertise in biomedical sciences, and
 - UF Institute for Food and Agricultural Sciences (IFAS) for scientific expertise in livestock, equine, aquatic animals, and wildlife, and for connections across the state of Florida via the IFAS Extension network.
- The opportunity exists to leverage recent substantial research investments in
 - Emerging Pathogens Institute (EPI), and
 - Preeminence Initiative scientists.
- UF-CVM has an outstanding collaborative relationship with the Florida Department of Agriculture and Consumer Services (FDACS), whose leadership fully supports this proposal. Diagnostic services to be provided by the *Institute* will complement those currently provided by the Bronson Animal Disease Diagnostic Laboratory operated by FDACS. In particular, the *Institute* would initially focus on enhancing diagnostic capabilities within the state of Florida related to:
 - Increased capacity for livestock and equine diagnostics,
 - Emerging pathogens and zoonotic diseases,
 - Molecular diagnostic methods,
 - Forensic veterinary sciences,
 - Toxicology and endocrinology investigations,
 - Aquatic animal, wildlife health, and aquaculture issues, and
 - Companion animal health.

Further, we have agreed in principle to develop a cooperative agreement whereby the Institute would actively engage with FDACS to coordinate services on an ongoing basis.

- Strong stakeholder support also exists beyond FDACS for this initiative, as indicated by verbal commitments of support already obtained from:
 - Florida Veterinary Medical Association
 - Florida Farm Bureau Federation

- Florida Cattlemen's Association
- Florida Thoroughbred Breeders' and Owners' Association (FTBOA)
- Southeast Milk, Inc.
- Florida Equine Practitioner's Association
- Florida Fish and Wildlife Conservation Commission (FWC)
- Florida Department of Health (DOH)
- Florida Aquaculture Association
- Others, including federal agencies (USDA, DHS, and CDC).

We envision creating an advisory board for the *Institute* where these stakeholders will be actively engaged.

- Being in Florida provides a unique blend of trade, tourism, geography, ecology, climate, and culture that markedly heightens the importance of progressive animal health diagnostics to the state's economy, public health, and biosecurity.

Creating the *Institute for Comparative Veterinary Diagnostics* is clearly in alignment with UF institutional priorities as detailed in *The Decade Ahead – Goals for the University of Florida, 2016*:

- This investment will provide a vital boost toward a top-tier ranking for the College of Veterinary Medicine, the only such college in the state of Florida.
- Academically, both education and research will be markedly enriched within the true land-grant tradition of active community engagement.
 - Education will be strengthened through the enhanced caseloads and teaching materials that the *Institute* will attract. In addition, individual diagnostic programs will become much stronger as a result of the *Institute* (e.g. forensic pathology, diagnostic toxicology, aquatic animal diagnostics), and research opportunities for students will notably expand. These impacts will be felt across the student spectrum in our college: veterinary medical students, graduate students, and interns/residents. In fact, we would expect our numbers of graduate students and interns/residents to increase as a result.
 - Research will also become stronger because of the increased number of faculty who will be productive scholars. Also, the broader portfolio of animal disease research will help us to more fully leverage the recent substantial research investments in the Emerging Pathogens Institute and the Preeminence Initiative scientists. As a result, both our existing faculty and the new hires will be more competitive for extramural research funding.
- Creation of the *Institute* will undoubtedly increase the visibility and impact of our faculty.
- The increased engagement that will naturally accompany the *Institute* will have positive impacts on animal health, public health, and the economy in Florida.
 - A large portion of animal diagnostic testing is currently being sent out-of-state by veterinary medical practitioners in Florida, most of which goes to our peer institutions. The *Institute* would capture the majority of this lost revenue.
 - The *Institute* will enhance the breadth, depth, capacity, preparedness,

timeliness, responsiveness, accountability, effectiveness, and efficiency of animal health diagnostic testing in Florida, thereby improving animal health and public health.

- The *Institute* will also significantly enhance the success and impacts of UF-CVM alumni:
 - Improved diagnostic testing will be available for veterinary medical practitioners, thereby enhancing the success of their individual practices.
 - Having an unmatched complement of diagnosticians will enable enhanced continuing education programs emanating from UF-CVM, thereby improving the skills of our alumni as diagnosticians.

Existing diagnostic services offered through the UF Veterinary Hospitals include anatomic pathology, clinical pathology, and microbiology. These will form the core of the new *Institute*, to be augmented through investing \$3M recurring LBR funds in operations with emphasis on the following diagnostic specialties:

- Forensic pathology
- Molecular diagnostics
- Endocrinology
- Toxicology
- Aquatic animal diseases
- Wildlife disease
- Comparative pathology (2)
- Parasitology
- Bacteriology
- Virology
- Serology
- Epidemiology (2)

In addition, a director will be hired for the *Institute* along with adequate technical and support staff. The majority of staffing costs will be covered from user fees generated through the fee- for-service diagnostics that will be provided by the *Institute*. Many of these tests are currently being sent out-of-state by practicing veterinarians in Florida.

One-time startup costs for new faculty are requested (\$1.5M). Also, renovation of existing space in the UF Veterinary Hospital at a one-time cost of \$1.8M will be necessary to launch this initiative. Further need for facility growth is anticipated in the future as the *Institute* expands to a regional, national, and global resource, but those facilities will be funded separately. The most likely source of these funds is USDA, as momentum is already building in Congress to provide funds for animal health diagnostic laboratories through the Farm Bill. (Note: As a result of UF lobbying, we actually have enabling language in the fy2017 House Ag Appropriations report).

II. Return on Investment - Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.

- Enhanced academic productivity in addition to the impacts discussed on page 3:
 - Research grants and contracts – expect \$1.5M/y
 - Scholarly publications – estimated 30/y
 - Increased number of graduate students and interns/residents – expect 15 total
 - Intellectual property – new tests developed for possible commercialization
- Economic return:
 - Employment – Considering both faculty and staff, an estimated 20 new jobs will be created in Gainesville (with multiplier effect, ~30 jobs).
 - Recurring expenditures – Including the LBR recurring expenditure (\$3M/y), anticipated increased service revenues (target of \$5M/y), and expected research grants and contracts (\$1.5M/y), the total economic impact in Gainesville will be about \$9.5M/y (with multiplier effect, over \$14M/y) once the *Institute* is fully operational.
 - One-time expenditures – Monies spent in facility renovation and faculty startup (\$3.3M together) will also have an economic impact in Gainesville. With an estimated multiplier effect, this impact will total nearly \$5M at the beginning of the program.
 - The largest economic return on investment for the *Institute* will relate to mitigating the risks currently faced by animal agriculture (~\$2B/y with seafood and aquaculture), the equine industry (~\$3B/y), companion animals (~\$3.4B/y in pet industry expenditures), eco-tourism, and public health.

III. Facilities (If this issue requires an expansion or construction of a facility, please complete the following table.):

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.	UF Veterinary Hospital Renovation	2017-18	\$1,800,000	
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida
Issue Title: Institute for Comparative Veterinary Diagnosti

	RECURRING	NON- RECURRING	TOTAL
<u>Positions</u>			
Faculty	15.00	0.00	15.00
Other (A&P/USPS)	6.00	0.00	6.00
	-----	-----	-----
Total	21.00	0.00	21.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$2,000,000	\$0	\$2,000,000
Other (A&P/USPS)	\$307,692	\$0	\$307,692
	-----	-----	-----
Total	\$2,307,692	\$0	\$2,307,692
	=====	=====	=====
Salaries and Benefits	\$3,000,000	\$0	\$3,000,000
Other Personal Services	\$0	\$0	\$0
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
Faculty Start-up Costs	\$0	\$1,500,000	\$1,500,000
<u>Facility Renovation</u>	<u>\$0</u>	<u>\$1,800,000</u>	<u>\$1,800,000</u>
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$3,000,000	\$3,300,000	\$6,300,000
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida
Issue Title:	Investing in Faculty to Reduce Class Size and Retain Talent in a Competitive Environment
Priority Number	
Recurring Funds Requested:	\$45 million
Non-Recurring Funds Requested:	
Total Funds Requested:	\$45 million
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for Fiscal Year 2017-2018	<input checked="" type="checkbox"/>

I. Description – 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2016 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

The University of Florida has just completed The Decade Ahead, a strategic plan which articulates goals and objectives for the next ten years. This is the work product of a 17-member Goal-Setting Task force, consisting of students, faculty, and university leaders, which identified the following goals, within which there are 3-5 articulated objectives for each goal, and for which there will be metrics established:

Goal 1: An exceptional academic environment that reflects the breadth of thought essential for preeminence, achieved by a community of students, faculty, and staff who have diverse experiences and backgrounds.

Goal 2: An outstanding and accessible education that prepares students for work, citizenship and life.

Goal 3: Faculty recognized as preeminent by their students and peers.

Goal 4: Growth in research and scholarship that enhances fundamental knowledge and improves the lives of the world's citizens.

Goal 5: A strengthened public engagement of the university's programs with local, national, and international communities.

Goal 6: Alumni who are successful in their careers and in life and who are proud to be graduates of the University of Florida.

Goal 7: A physical infrastructure and efficient administration and support structure that enable preeminence.

The Board of Governors aspires to improve national rankings for the State University System. The University of Florida lags in the number of faculty and support for the faculty, therefore, in order for the University of Florida to make substantial progress additional *Targeted Investments* are needed in the area of faculty and graduate teaching and research assistant support and resources. UF is requesting funding for the following two inter-related budget issues in order to markedly move the national measurement needle. The University of Florida will leverage this investment by the State by increasing the amount of externally-generated research and private dollars.

The two targeted, but inter-related issues, for which funds are requested:

- 1) \$45M for Investing in Faculty to Reduce Class Size and Retain Talent in a Competitive Environment.
- 2) \$30M for Investing in Research to Address Five Future Threats and Strategic Opportunities (\$20 million to recruit 100 accomplished faculty in targeted areas of concern to Florida and the nation, and \$10 million to make graduate assistant stipends nationally competitive to attract the best and brightest in support of teaching and faculty research programs). This is a separate budget request.

► Investing in Faculty to Reduce Class Size and Retain Talent in a Competitive Environment- \$45M:

Part I: Compared to our peers, the University of Florida has an unusually high student to faculty ratio, resulting in large classes and less opportunity for interaction between students and faculty members. We strive to improve the quality of our education - particularly undergraduate education - by increasing the number of faculty members.

Our goal is to reduce our current student to faculty ratio of 21:1 to 17:1. This would place us closer to our peers, which have the following ratios:

University of California- Berkeley(17:1); University of Illinois at Urbana-Champaign (18:1); Indiana University at Bloomington(17:1), University of Michigan at Ann Arbor(15:1); University of North Carolina at Chapel Hill(13:1); Ohio State University(18:1); Pennsylvania State University at University Park(16:1); Texas A&M University(20:1); University of Texas at Austin(18:1); and University of Wisconsin at Madison(17:1), **for an average of 17:1. By comparison, UF's Student-to-Faculty Ratio is 21:1.**

→The cost to reduce UF's Student-to-Faculty Ratio by two points, from 21:1 to 19:1, is \$35 million dollars for 225 new faculty lines. This budget issue is for \$15M for 125 new faculty lines. It allocates \$120,000 per new faculty line since the faculty hired under this initiative will be a mix of Assistant Professors and Lecturers whose assignment will be solely instruction. The additional faculty will be applied to undergraduate areas of demand and need.

The balance of the \$35M identified need for additional faculty lines is addressed in the budget issue entitled: Investing in Research to Address Five Future Threats and Strategic Opportunities which is for \$20M for 100 new faculty lines, at an average of \$200K per faculty line to fund hires that will have substantial and immediate impact on UF's research and outreach missions.

Part II: The University of Florida also lags behind its peers in faculty compensation, which is critical to attracting and retaining the best talent. Universities compete in a national market for the best and brightest faculty and that market is much more competitive for major research universities such as UF.

We consider our peer universities to include our fellow members of the Association of American Universities (AAU). The following demonstrates UF average salaries versus those of our AAU peers:

The 2015/16 Average Faculty Salaries for UF and its AAU peers by rank are:

Full Professor: UF (\$133,924);AAU Peer Average (\$150,253); Difference= \$16,329

Associate Prof: UF (\$89,261); AAU Peer Average (\$101,767); Difference= \$12,506

Assistant Prof: UF (\$79,095); AAU Peer Average (\$ 91,757); Difference= \$12,662

→*The cost to provide resources to close the gap with UF's peers and to support the recruitment and retention of high-quality faculty at UF is \$30M.*

II. Return on Investment - Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.

- As proven over the past three years with the Preeminence program, investment by the State is substantially leveraged by UF with externally-generated research funding and private fundraising; this leveraging will continue to increase with the new faculty hires and fundraising activities.
- When looking at national rankings, UF lags in the area of faculty and faculty resources. This investment will reduce student-faculty ratios, thus improving UF's nationally-reported data and, most importantly, with smaller class sizes, will enhance the educational experience for students.
- Using Data Analytics, which measures the productivity and effectiveness of faculty, UF will continue to seek world-class faculty. As stated in UF's 2016 Workplan, UF will capitalize the addition of new faculty by organizing large interdisciplinary initiatives to combine their talents with those of our current outstanding faculty to better brand UF's accomplishments in many domains.
- Investment in this budget issue will allow the university to pay a wage that attracts and keeps the best and brightest faculty in Florida and does not allow other leading universities to recruit them away from our state. In addition, and importantly, as stated in The Decade Ahead, attracting and retaining the best and brightest in our state results in a high quality, widely recognized undergraduate, graduate, and professional education and experience; in increased numbers of high-impact scholarly publications and creative works; in increased numbers of faculty awards, fellowships, and memberships; in increased faculty participation in professional service and leadership; academic programs that promote effective and accessible learning through innovation; in increased extramural and intramural funding that enhance both basic and translational research; and in documented advances in productivity and recognition of UF research programs.
- This budget issue is integral to UF's success in accomplishing Goals 1 through 5 of The Decade Ahead.
- When looking at national data, UF lags in the area of faculty compensation. This investment in faculty compensation will improve the national data that is reported, improve UF's National profile, and will provide the university with a very important recruitment and retention tool.
- Pursuant to The Decade Ahead Goals and Objectives and UF's 2016 Workplan, the two investments requested by UF, if funded, will support an environment that will foster new discoveries and inventions, enabling UF to build on its excellent national ranking in technology transfer and licensing which will spur new businesses and state economic development to accompany UF's emphasis on service and outreach to State citizens and will enable our students to lead and influence the next generation and beyond.

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.				
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida
Issue Title: Investing in Faculty to
Reduce Class Size and Retain Talent in a
Competitive Environment

	<u>RECURRING</u>	<u>NON- RECURRING</u>	<u>TOTAL</u>
<u>Positions</u>			
Faculty	125.00	0.00	125.00
Other (A&P/USPS)	0.00	0.00	0.00
	-----	-----	-----
Total	125.00	0.00	125.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$12,000,000	\$0	\$12,000,000
Other (A&P/USPS)	\$0	\$0	\$0
	-----	-----	-----
Total	\$12,000,000	\$0	\$12,000,000
	=====	=====	=====
Salaries and Benefits	\$15,000,000	\$0	\$15,000,000
Other Personal Services	\$0	\$0	\$0
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
Faculty Salary Increase	\$30,000,000	\$0	\$30,000,000
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$45,000,000	\$0	\$45,000,000
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida
Issue Title:	Investing in Research to Address Five Future Threats and Strategic Opportunities
Priority Number	
Recurring Funds Requested:	\$30 million
Non-Recurring Funds Requested:	
Total Funds Requested:	\$30 million
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for Fiscal Year 2017-2018	<input checked="" type="checkbox"/>

I. Description - 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2016 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

The UF and SUS Context

The University of Florida has just completed The Decade Ahead, a strategic plan that articulates UF's goals and objectives for the next ten years.

That strategic plan is consistent with the Board of Governors 2012-2025 Strategic Plan, which has the following goals:

- 1) Improve the quality and impact of scholarship, research, and commercialization activities, and grow the number of faculty/departments/centers and institutes recognized for their scholarship, research, and commercialization endeavors.
- 2) Increase research and commercialization activities to help foster entrepreneurial campus cultures.
- 3) Increase undergraduate participation in research to strengthen the pipeline of researchers pursuing graduate degrees.
- 4) Attract more research funding from external sources (federal and private)
- 5) Promote more collaboration with private industry on research projects.

UF is the State's only public land-grant, sea-grant and space-grant university and a major contributor toward the State's goal of providing a highly-educated workforce, with a focus on STEM and health care fields. Because it is one of the nation's most comprehensive universities with its 16 colleges all located on one campus, UF is uniquely equipped to pursue effective interdisciplinary research at the boundaries of scientific disciplines, which is where the major challenges (and funding) of the 21st century lie. Over the past 20 years, annual research funding at UF has grown by more than 300 percent, placing UF firmly among the top 20 public research institutions nationally.

UF's research achievements, economic impact, reputation, and external funding have grown as the faculty, graduate students, and postdoctoral researchers have increased in number and quality over the past three decades. In the end, it is all about the talent UF is able to recruit and retain on the campus. Thanks to legislative investments over the past four years, UF added over 100 outstanding faculty members who provided almost instantaneous return on investment by winning over \$75 million in external grants and contracts. The previous investment markedly increased UF's research and tech transfer capabilities and encouraged hundreds of millions of dollars of private donations. The university is investing several million dollars of its performance funding allocation into improving the stipends for graduate assistants.

While this has been a great infusion of talent into the university that has produced substantial return on investment, UF still lags in comparison to national peers in the number of faculty, critical mass in key research areas, and in support needed to attract the best and brightest graduate assistants who help drive faculty teaching and research programs. Therefore, in order for the University of Florida to make substantial progress, additional ***Targeted Investments*** are needed in the area of faculty and graduate assistant support, particularly in STEM. UF is requesting funding for the following two inter-related budget issues in order to markedly move the national measurement needle. The previous investment in preeminent

faculty hires has increased UF's research and tech transfer capabilities and has leveraged substantial external grants and private donations to support faculty research.

The two targeted, but inter-related issues, for which funds are requested:

- 1) \$45 million for Investing in Faculty to Reduce Class size and Retain Talent in a Competitive Environment (This is a separate budget request).
- 2) \$30 million for Investing in Research to Address Five Future Threats and Strategic Opportunities (\$20 million to recruit 100 accomplished faculty in targeted areas of concern to Florida and the nation, and \$10 million to make graduate assistant stipends nationally competitive to attract the best and brightest in support of teaching and faculty research programs).

► Investing in Research to Address Five Future Threats and Strategic Opportunities- \$30M

→Part I: The University of Florida is requesting \$20 million to strengthen specific research groups of faculty to resolve critical state and national needs.

As a university that aspires to be among the very best in the U.S., UF must confront several of the most important and challenging issues facing our state, our nation, and our planet. To this end, the University of Florida proposes tackling five major challenges for the State of Florida. Each area represents an existing strength within UF that, with investments in new faculty and support for graduate students, promises to propel state and university to the forefront of the nation.

- **Data Science.** Advances in computing, communications, quantitative sciences, and cyber technologies have opened new avenues to address virtually all major societal challenges. It is estimated that the amount of data produced over the next two years worldwide will be twice as much as humans have generated since the dawn of civilization. Because of our growing ability to assemble and analyze huge data sets, many fields are poised for breathtaking breakthroughs. The advent of personalized medicine in the treatment of many diseases and even control of health care costs will depend in large measure on our success in applying analytic techniques to large medical datasets. UF's Institute for Computational Engineering will rely on new data science techniques to tackle important problems in computational biology, computational fluid mechanics, computational materials, computational electronics, computational pharmacology, bioinformatics and computational chemistry, among others. The UF Informatics Institute was created a few years ago to coordinate research and applications of informatics across the campus. It is coordinating research

projects in the biomedical and life sciences, engineered systems and the physical sciences, and in the social sciences and education. UF invested \$3.8 million of funds appropriated by the Legislature into hiring faculty in data science and informatics, but because these tools and techniques have become pervasive across all fields, we need to invest more into this enabling science. UF has also invested heavily in the underlying hardware needed for data science and last year christened HiPerGator, one of the most powerful supercomputers in American higher education. HiPerGator currently supports half a billion dollars of funded research at UF. An increasingly dynamic and fundamental tool, data science is a critical component of the discussion and problems that follow.

- Human Health – Medical research yields remarkable advances in the prevention and cure of many diseases. Many ailments that were permanently debilitating or fatal are now treatable, curable, or completely annihilated. Yet, much remains to be done, and health care remains one of the top concerns for most Americans. The demographics of Florida make these concerns especially pressing. Biomedical research promises to transform health care in the coming decades, and UF is an emerging leader in several areas, including the development of personalized medicine, the treatment of genetic, brain and neurological disorders, childhood diabetes, cancer, and new and emerging pathogens such as Zika and Chikungunya. UF has committed to swiftly carry research discoveries from laboratory bench to bedside through its NIH-designated Clinical and Translational Sciences Institute. With an infusion of new talent joining the combined resources of the Colleges of Medicine, Pharmacy, Dentistry, Public Health & Health Professions and the Departments of Biomedical Engineering, Computer Science, and Chemistry, UF will make significant strides in resolving these issues of concern to all Floridians.
- Security – Security has become a dominant and growing concern in the state and nation and will remain so for the foreseeable future. It is more accurate to say it is a set of concerns that range from cybersecurity threats to domestic terrorism to the integrity of the nation’s infrastructure. Cybersecurity is a continuous challenge in our cyber-connected society, and we face threats to finance, business, the nation’s civil infrastructure and defense capabilities, and to the security of our personal information. Through recent legislative appropriations, UF has built a nationally recognized research group specializing in software and hardware approaches to cybersecurity, but this group needs to grow to address local and national needs. Faculty in the College of Engineering and the College of Design, Construction, and Planning will address security threats to our physical infrastructure.
- Infrastructure and Resiliency – As citizens of a peninsula state, Floridians are keenly aware of the interaction among the physical infrastructure of our communities, the forces of nature, and man’s attempts to mediate these interactions. The communities they inhabit must be engineered to be resilient in the face of catastrophic forces, such

as hurricanes, and evolving circumstance, such as sea level rise. These changes impact the built infrastructure, the health of the natural environment, and the ability of certain economic sectors, such as agriculture and tourism, to flourish. The recent algae blooms along the east and west coast illustrate some of these issues. A portion of the funds provided by this request will be invested to hire faculty in a variety of disciplines, including engineering, biology, agriculture, building construction, and several social sciences to build capacity in addressing resilient communities. The National Science Foundation (NSF) has determined research in resilience to be of national importance and has created a new multidisciplinary initiative between the Directorates for Engineering, Computer and Information Science and Engineering (CISE) and Social, Behavioral and Economic Sciences (SBE). The initiative is known as CRISP: Critical Resilient Interdependent Infrastructure Systems and Processes.

- Advanced Materials – In today’s world, we are often advantaged by new technologies that appear revolutionary compared to those available just a few years back. Whether it is the incredible functionality of smart phones, advent of electric and autonomous cars, medical implants, protective clothing for law enforcement, or new medicines, the core enabling technology is often the materials themselves. The advent of advanced materials, whether a lightweight alloy or composite material for vehicles, a new chemical used to strengthen fibers, electronic materials for sensors, or a new therapeutic drug, is often the research breakthrough that proves key and enabling. Future technological advances will depend on significant advancement in materials and material properties. The College of Engineering and other departments specializing in the physical sciences are targeting two areas of importance to the state and nation. The first is “materials under extreme conditions” including nuclear materials and new advances in materials needed to protect infrastructure from natural and man-made hazards. Advances such as these are critical for the problems in resiliency mentioned above. The second is research into new materials for health care needed for the advanced manufacturing of health care devices. There is an existing industrial base in Florida that would benefit from additional research in this area. This line of inquiry would likely lead to the creation of new businesses and graduates to meet the growing state workforce demands in this area.

The \$20 million requested for new faculty talent will allow the recruitment of 100 new faculty members (at an average salary plus fringe rate of \$200K per year) who are leaders in their fields with well-established and successful research programs.

→Part 2: *In addition to the \$20M requested for 100 faculty lines to strengthen specific research groups, UF is requesting funds to support Competitive Graduate Assistant Stipends in Support of Teaching and Faculty Research at a total of \$10M.*

The University of Florida seeks to attract the best and brightest graduate students to teach and conduct research at the university. Investment in these students supports faculty research programs and facilitates technology transfer and the creation of new businesses.

At \$13,430 for two semesters, the minimum stipend paid to graduate students at the University of Florida is less than the minimum stipend at competitor institutions (a deficit ranging from approximately \$2,500 to \$8,400 per 9 month FTE). Recent analysis of data received from peer institutions shows that UF:

- is in the lower half for the combined number of students supported by research and teaching assistantships, and
- is at the bottom in percent of PhD students funded and average FTE.

Simply put, a larger proportion of UF PhD students are not funded, and those that are funded receive lower stipends than at peer institutions, on average. This fact makes it difficult to recruit the best graduate assistants. And it is important that UF recruit the best, since they work shoulder-to-shoulder with faculty members in the laboratory and are important colleagues in advancing faculty research programs.

II. Return on Investment - *Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.*

Past experience demonstrates remarkable return from the type of investment requested here. Over the past three years, the Legislature has facilitated the hiring of 100 additional faculty researchers at UF. In the past two years, the faculty have won over \$75 million in new external funding in support of important research projects from agencies such as the National Institutes of Health (NIH) and the National Science Foundation (NSF). In addition, the partnership between the Legislature and UF that seeks to advance UF's research capabilities in service to the state and to advance its national stature has also excited and stimulated UF's alumni and friends to join the effort. Through their generosity, the UF Foundation has raised over \$900 million in donations in support of this partnership. Much of this money will go into the university endowment, and endowment earnings will support faculty research for decades to come. UF's aspirations to become one of the nation's top public universities, and in particular, its analogous aspirations for its College of Engineering, were important factors in Herbert Wertheim's decision to provide a \$50 million gift last year to transform the college into one of the nation's very best. Based on this recent experience, we expect this additional investment in talent will generate similar returns of more than five to one in external research grants and hundreds of millions of dollars of donations in support of faculty and their research efforts.

- With the addition of the requested faculty, the indicated research areas will achieve critical mass that will add to their research capabilities and national stature.
- The addition of 100 faculty with accomplished track records will improve UF's national standing. UF relies on an external company (Academic Analytics) to assess the scholarly productivity of its faculty and the standings of the university's departments and colleges. The legislature's previous investment into new faculty had substantial impact in the Academic Analytics assessment, and additional faculty hiring will accelerate this progress.
- Most of the faculty will be hired in the STEM area. With UF's emphasis on finding real-world solutions to society's major problems, we can expect these new faculty will maintain and accelerate UF's national leadership in technology transfer, new patents, licenses and spin-off businesses.
- As stated in The Decade Ahead, attracting and retaining the best and brightest in our state results in a high quality, widely recognized undergraduate, graduate, and professional education and experience; in increased numbers of high-impact scholarly publications and creative works; in increased numbers of faculty awards, fellowships, and memberships; in increased faculty participation in professional service and leadership; academic programs that promote effective and accessible learning through innovation; in increased extramural and intramural funding that enhance both basic and translational research; and in documented advances in productivity and recognition of UF research programs.
- This request, when combined with the other \$45 million request mentioned at the beginning of this document, will facilitate the hire of over 225 additional faculty members. This addition to the workforce will have the effect of lowering the student-faculty ratio from its current 21:1 to 19:1. This would still be the highest student-faculty ratio among the university's peers and competitors, but this progress would signal UF's commitment to quality undergraduate education.

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.				
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida
Issue Title: Investing in Research to
Address Five Future Threats
and Strategic Opportunities

	<u>RECURRING</u>	<u>NON- RECURRING</u>	<u>TOTAL</u>
<u>Positions</u>			
Faculty	100.00	0.00	100.00
Other (A&P/USPS)	0.00	0.00	0.00
	-----	-----	-----
Total	100.00	0.00	100.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$15,400,000	\$0	\$15,400,000
Other (A&P/USPS)	\$0	\$0	\$0
	-----	-----	-----
Total	\$15,400,000	\$0	\$15,400,000
	=====	=====	=====
Salaries and Benefits	\$20,000,000	\$0	\$20,000,000
Other Personal Services	\$10,000,000	\$0	\$10,000,000
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$0	\$0	\$0
Electronic Data Processing	\$0	\$0	\$0
Special Category (Specific)	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	\$0	\$0	\$0
	-----	-----	-----
Total All Categories	\$30,000,000	\$0	\$30,000,000
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida
Issue Title:	Medical Marijuana: Efficacy and Safety Evaluation
Priority Number	
Recurring Funds Requested:	\$2,247,000
Non-Recurring Funds Requested:	\$ 215,000
Total Funds Requested:	\$2,462,000
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for Fiscal Year 2017-2018	<input checked="" type="checkbox"/>

- I. Description** – 1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2016 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services.

Program description:

In 2014, the Legislature enacted legislation cited as the “Compassionate Medical Cannabis Act of 2014”. Section 381.986(2)(e), Florida Statutes, as created in 2014, requires physicians to submit the patient treatment plan quarterly to the University of Florida College of Pharmacy for research on the safety and efficacy of low-THC cannabis on patients. Therefore, this request implements the research provisions of section 381.986(2)(e), F.S.

UF’s proposed Surveillance System provides a state of the art active surveillance program to safeguard the use of a treatment that has not been approved by the FDA. Because evidence is lacking to evaluate risk benefit of medical marijuana, it is pivotal that the state establishes a system that allows monitoring of emerging safety concerns, especially for use in children.

The medical marijuana (MMJ) data system will consist of two components, the MMJ registry which tracks descriptive information on enrollment and dispensing (maintained by the Office of Compassionate Use), and the UF surveillance system aimed at assessing treatment outcomes and adverse events. The **UF surveillance system** is build around provider reports, which include treatment plans, reports on treatment discontinuation and on adverse events. Reports will be submitted to UF via **online provider portals** to standardize data collection and facilitate analysis of large numbers of reports. Submitted reports will be coded by UF for analytic purposes and flagged for follow-up if the submissions indicate that patients may have experienced adverse events (e.g., required acute or emergency care, or discontinued treatment due to side effects). In addition to provider reports, patients will have the opportunity to report adverse events via fax, a phone hotline, or an **online patient portal**. The **UF Medication Therapy Management and Communication and Care Center** will follow-up with providers or patients as needed to assess whether adverse events occurred that may be attributable to medical marijuana. The combination of an infrastructure that allows spontaneous reports of adverse events by patient and providers with proactive follow-up on events that may indicate adverse events results in a state-of-the art safety surveillance system.

To allow comparison of treatment outcomes in patients who received medical marijuana against control groups with similar disease characteristics UF will link the UF surveillance system and registry data with **Florida Medicaid billing records**, which include diagnostic and procedure detail on all in- and outpatient encounters as well as all reimbursed medications. Other linkages may include extracts of **electronic health records** to enhance information on provider treatment plans and linkage to the **Electronic-Florida Online Reporting of Controlled Substance Evaluation Program** to evaluate changes in the chronic use of opioids.

The registry and the UF surveillance database create the MMJ data warehouse to be maintained on a server at the University of Florida that meets all state and federal data privacy requirements and allows for daily disaster recovery. Updates on enrolment numbers, treatment plan information, dispensing quantities, duration of therapy, and adverse event reports will be available to the Office of Compassionate Use via a **data dashboard** for monitoring of the medical marijuana program.

The requested budget includes the development of all components of the Medical Marijuana Safety and Outcomes Surveillance System and data processing and follow-up for 25,000 enrolled patients. Salary for faculty and staff are requested to oversee the development and implementation of the Surveillance System, all data processing and analyses, develop reports for the Office of Compassionate use and employ the collected data for formal studies on the safety and effectiveness of medical marijuana. Projections include the processing and coding of 25,000 initial treatment plans, 50,000 follow-up treatment plans, 6250 discontinuation and 1250 adverse event reports, totaling 82,500 reports. We request \$218,750 for the University of Florida Medication Therapy Management Communication and Care Center to conduct an estimated 7,500 follow-up calls with patients and/or providers to assess occurrence of adverse events and their potential association with medical marijuana.

We also request \$220,000 in recurring and \$215,000 non-recurring cost for the development and implementation of provider, patient, and nursery portals to report information that is collected in the Surveillance System and develop a dashboard for ongoing aggregate report of data to the Office of Compassionate Use. Another \$50,000 are requested for storage and disaster recovery of the data warehouse and relevant hard- and software for data processing.

With projected increases in enrolment, cost for data collection and patient follow-up are projected to increase by \$500,000 for each additional 25,000 patients who are enrolled in the registry per year. If numbers exceed 100,000 patients, data collection and follow-up will be streamlined to control cost. For example, follow-up to ascertain reasons for treatment discontinuation would only occur in a random sample of patients.

Alignment with UF's strategic goals

UF's Medical Marijuana Surveillance Program meets the legislative mandate to evaluate the "safety and efficacy of medical marijuana". It furthermore allows UF to establish a lead position in research surrounding the clinical use of medical marijuana and to contribute the urgently needed evidence on both effectiveness and safety.

II. Return on Investment - *Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.*

- The return on investment is the safety of patients who elect to take medical marijuana under the Compassionate Cannabis Act. In addition, the system allows for controlled studies of treatment effectiveness. Direct indicators of success include the above-described dashboard that will offer aggregate information on registry participants, treatment utilization pattern, and adverse events as well as publication on both treatment effectiveness and safety in future years (as sufficient data is available for formal controlled studies).

- The UF Medical Marijuana Surveillance System will offer the most comprehensive state-led effort to monitor outcomes of the experimental use of medical marijuana including an active surveillance system for rapid detection of emerging safety concerns and appropriate regulatory action.

III. Facilities *(If this issue requires an expansion or construction of a facility, please complete the following table.):*

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.				
2.				

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of Florida
Issue Title: Medical Marijuana: Efficacy & Safety Evaluation

	NON- RECURRING	RECURRING	TOTAL
<u>Positions</u>			
Faculty	2.00	0.00	2.00
Other (A&P/USPS)	13.00	0.00	13.00
	-----	-----	-----
Total	15.00	0.00	15.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty		\$0	\$0
Other (A&P/USPS)	\$381,000	\$0	\$381,000
	\$490,000	-----	-----
Total	\$871,000	\$0	\$381,000
	=====	=====	=====
Salaries and Benefits		\$0	\$0
Other Personal Services	\$1,137,000	\$0	\$1,137,000
Expenses	\$0	\$0	\$0
Operating Capital Outlay	\$622,000	\$0	\$622,000
Electronic Data Processing	\$50,000	\$0	\$50,000
Special Category (Specific)	\$0	\$0	\$0
Subcontract(electronic registry/ data platform)	\$0	\$0	\$0
	\$220,000	\$215,000	\$435,000
UF Pharmacy Call Center	\$218,000	\$0	\$218,000
	-----	-----	-----
Total All Categories	\$2,247,000	\$215,000	\$2,462,000
	=====	=====	=====

**State University System
Education and General
2017-2018 Legislative Budget Request
Form I**

University(s):	University of Florida
Issue Title:	Enhance Zika Research and Education Capacity
Priority Number	
Recurring Funds Requested:	\$2.2 million
Non-Recurring Funds Requested:	\$2.0 million
Total Funds Requested:	\$4.2 million
Please check the issue type below:	
Shared Services/System-Wide Issue for Fiscal Year 2017-2018	<input type="checkbox"/>
New Issue for 2017-2018	<input checked="" type="checkbox"/>

- I. Description -** *1. Describe the service or program to be provided and how this issue aligns with the goals and objectives of the strategic priorities and the 2015 Work Plan established by your institution (include whether this is a new or expanded service/program). If expanded, what has been accomplished with the current service/program? 2. Describe any projected impact on academic programs, student enrollments, and student services*

The Zika virus originally came from Africa, and is thought to have entered the Americas in 2014, with subsequent rapid spread through South America and the Caribbean. In contrast to the prior experience with the virus in Africa and Asia, the viral strain now circulating has the ability to cause severe birth defects (microcephaly and other brain abnormalities) and stillbirths when it infects pregnant women in the first trimester of pregnancy. It also has the ability to trigger Guillian-Barre Syndrome, an immunologic response to infection in adults which can cause paralysis, long-term intensive care unit hospitalization, and death.

These observations have led to the declaration of a Global Public Health Emergency by the World Health Organization, and recommendations by CDC and WHO that pregnant women not travel to areas where the virus is known to be present. In response to these events, Governor Scott has directed Surgeon General Armstrong to declare a Zika-related Public Health Emergency in multiple Florida counties.

As of June 18, 2016, Zika virus infection has been confirmed in 170 persons in Florida. All of the infected persons have acquired the infection during international travel, and, to date, there has been no documentation of transmission of the virus within the state. In light of these findings, and to guide further decisions regarding the current declared Public Health Emergency, there is an urgent need for answers to several basic questions:

- What is the risk that Floridians (and visitors to Florida) will be infected with Zika?
- What is the risk that such an infection, if it does occur, will result in a birth defect such as microcephaly?
- What is the most cost-effective strategy for reducing these risks?
- How can Floridians best be educated to help in minimizing these risks?

Answering these questions will require some sophisticated mathematical modeling, with associated basic science research to obtain the data to feed into the models. It will also require the ability to convey key findings to the general public in a way that minimizes risk while not generating inappropriate concerns.

The University of Florida (UF) has strong existing Zika expertise centered at the UF Emerging Pathogens Institute (EPI) in Gainesville and the Florida Medical Entomology Laboratory (FMEL) in Vero Beach. We are home to one of three National Institutes of Health-funded Models of Infectious Disease Agents Study (MIDAS) Centers currently tasked with the development of risk models for Zika. Through the UF Preeminence program, we have hired some of the top scientists in the country with expertise in work with this and similar viruses. FMEL is internationally recognized for its work in mosquito ecology and control. Through our UF Cooperative Extension network, UF also has substantial expertise in public education, with a state-wide reach. The FMEL has expertise and a proven track record of research on all aspects of the biology of *Aedes aegypti* and *Aedes albopictus* and of the viruses that they transmit, including dengue chikungunya and now Zika. Prior to the threats to Florida posed by these viruses, FMEL scientists contributed important research on St. Louis, Eastern Equine, and West Nile encephalitis viruses in Florida as well as on the ecology of their mosquito vectors. Through our UF Cooperative Extension network, UF also has substantial expertise in public education, with a state-wide reach.

UF has the expertise to help address the Zika threat, but we need additional resources/funding to allow our investigators and staff to focus on Zika, moving quickly to develop both research and education programs for the optimal control of Zika-related illness in Florida.

II. Return on Investment - Describe the outcome(s) anticipated, dashboard indicator(s) to be improved, or return on investment. Be specific. For example, if this issue focuses on improving retention rates, indicate the current retention rate and the expected increase in the retention rate. Similarly, if it focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.

Currently there is a substantial lack of knowledge about Zika infection. While the CDC and WHO are making recommendations about preventive measures, our knowledge base is not really sufficient to know how best to spend public health funds for prevention. Work will have four anticipated outcomes:

- Enhancement of our scientific understanding of how the Zika virus is transmitted, and risk factors for its complications, such as microcephaly or Guillain-Barre syndrome. Outcome measures: scientific publications/communications, with development of Florida-targeted, science-based strategies for Zika prevention.
- Implementation of state-wide education program through IFAS extension for mosquito prevention/control
- Competitive advantage in pursuing federal funding opportunities.
- Mitigation of negative effects on the number of tourists visiting the State of Florida.

The requested funds will be used over the next three years as follows: (1) \$1.2 million for 7.65 faculty and support positions for the Emerging Pathogens Institute (EPI), specializing in the areas of microbiologists, mathematical and transmission dynamics modelers, virologists, and infectious and zoonotic disease; (2) \$540,000 for a post-doc and 3 technicians for the Florida Medical Entomology Lab (FMEL) to tap its renowned arbovirus biology, mosquito control and mosquito ecology expertise; (3) \$2 million in non-recurring funds for fixed capital outlay for lab improvements at FMEL, including their biosafety Level 2 and 3 (BSL2, BSL3) facilities which are essential for conducting research and surveillance on mosquito transmitted viruses such as Zika, dengue and chikungunya; and (4) \$459,975 for 3 faculty positions to implement the Zika education program that will be delivered through the IFAS Extension network via its offices in all 67 counties. The attached Board of Governors OB II Forms reflect the detailed costs for these activities (see 4 tabs at the bottom of the OB II form: Summary, EPI, FMEL RESEARCH, and EXTENSION)

III. Facilities (If this issue requires an expansion or construction of a facility, please complete the following table.):

	Facility Project Title	Fiscal Year	Amount Requested	Priority Number
1.	Florida Medical Entomology Laboratory facility upgrade	2017-18	\$2 million	

**2017-2018 Legislative Budget Request
Education and General
Position and Fiscal Summary
Operating Budget Form II**

University: University of FL IFAS
Issue Title: Enhance Zika Research and Education
Capacity: All Programs Combined

	RECURRING	NON- RECURRING	TOTAL
<u>Positions</u>			
Faculty	5.10	0.00	5.10
Other (A&P/USPS)	8.55	0.00	8.55
	-----	-----	-----
Total	13.65	0.00	13.65
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	602,571	0	\$602,571
Other (A&P/USPS)	410,319	0	\$410,319
	-----	-----	-----
Total	1,012,890	0	\$1,012,890
	=====	=====	=====
Salaries and Benefits	1,299,846	0	\$1,299,846
Other Personal Services	107,540	0	\$107,540
Expenses	792,589	0	\$792,589
Operating Capital Outlay	0	0	\$0
Electronic Data Processing	0	0	\$0
Special Category (Specific)	0	0	\$0
Fixed Capital Outlay	0	2,000,000	\$2,000,000
	-----	-----	-----
	0	0	\$0
	0	0	\$0
	-----	-----	-----
Total All Categories	\$2,199,975	\$2,000,000	\$4,199,975
	=====	=====	=====