BOARD OF GOVERNORS, STATE UNIVERSITY SYSTEM OF FLORIDA
PROPOSAL TO ESTABLISH A NEW TYPE I, II, OR III CAMPUS, OR SPECIAL PURPOSE CENTER

Florida International University **University Submitting Proposal**	**International Center for Tropical Botany** **Proposed Name of Educational Site**
25 **Site ID**	**Special Purpose Center** **Proposed Type of Educational Site** (Type I, II, or III Campus, or Special Purpose Center)
4013 S. Douglas Road, Miami, FL 33133 **Physical Address of Educational Site** (US Site: address, city, state, zip) (International site: street address, number, city, county/province, country)	May 2016 **Proposed Opening Date** (First term student instruction will be offered at the site)

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing or relocating an educational site have been met prior to the initiation of the first course offerings.

May 29, 2014 **Date Approved by the University Board of Trustees**		**President**	9/12/14 **Date**
Signature of Chair, Board of Trustees	**Date**	**Provost**	9/12/14 **Date**

Under Projected Enrollment, provide headcount (HC) and full-time equivalent (FTE) student enrollment estimates by level from Table 1 in Appendix A for Years 1 and 5, or the Final Year of implementation if it exceeds five. Under Projected Costs, provide revenues and expenses from Table 2 and capital project costs from Table 3 for Years 1 and 5, or the Final Year if it exceeds five.

Projected Site Enrollment (from Table 1)

		HC	FTE
Undergraduate	Year 1		
	Year 5		
Graduate	Year 1	0	0
	Year 5	30	2.81

Projected Costs (from Tables 3 and 4)

	Operational			
	E&G Funding	Other (Contracts & Grants, Auxiliary)	Capital Projects	Total Cost
Year 1	530,106	654,409	2,488,974	3,673,488
Year 2	584,920	1,736,241	2,511,027	4,832,188
Year 3	629,577	2,063,836		2,693,413
Year 4	661,043	2,198,718		2,859,761
Year 5	645,167	2,333,573		2,978,740

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included as Appendix A and not reproduced within the body of the proposals because this often causes errors in the automatic calculations.

I. Introduction

A. Provide a short description of the project and rationale for the request to establish an educational site, including the main purpose for this site (research, instruction, administration, student services, etc.).

The International Center for Tropical Botany (ICTB) mission: *The International Center for Tropical Botany (ICTB), a collaboration between Florida International University and the National Tropical Botanic Garden (NTBG), is dedicated to the study of tropical plants and the resources they provide. The ICTB's goal is to develop solutions that ensure the conservation and sustainable use of tropical plants in order to preserve tropical plant diversity for posterity. The ICTB will provide research-based knowledge and tools to preserve and sustainably use tropical plants and will foster programs to educate future generations of tropical plant biologists.*

The International Center for Tropical Botany is a new center designed to promote the status and effectiveness of FIU's preeminent instructional and research programs in tropical botany. The center is a collaboration between FIU and the National Tropical Botanical Garden (NTBG). The NTBG is a public nonprofit corporation created by act of the United States Congress and a charitable organization operating under section 501 (c) 3 of the Internal Revenue Code with a mission focused on tropical botany and conservation. The NTBG currently operates a botanical garden known as The Kampong located at 4013 Douglas Road in Coconut Grove in Miami. The ICTB has been designed to deliver maximum benefits from the coordination of existing investments and resources from both institutions. Specifically, it will bring together the activities of existing researchers, faculty and their institutional relationships to consolidate FIU and NTBG's preeminence in tropical botany.

NTBG desires to convey to FIU in 2014 three lots located adjacent to The Kampong for the purpose of constructing the ICTB building consistent with the Joint Operating Agreement dated April 9, 2014. This land will be used for the construction of a new facility with funds from a generous $5 million donation equally divided between and received from the Batchelor Foundation, Inc. and the William R. Kenan, Jr. Charitable Trust for the specific purpose of construction.

Eight (8) core existing FIU faculty will be assigned to the ICTB as their primary research center; a new ICTB Director and three (3) new Core faculty lines will be added in the future, for a total of twelve (12) Core and eight (8) Affiliate FIU faculty. In addition, there will be eight (8) researchers from NTBG that will be part of the ICTB. The faculty will continue with existing activities that will be delivered at MMC, BBC, and Fairchild Tropical Botanic Garden (FTBG) and at the new ICTB facility at The Kampong. This facility will house the ICTB Director, some faculty and their graduate students as well as visiting scientists. Other ICTB faculty will remain at MMC, BBC and FTBG. Through partnering with NTBG, FIU will expand the scope of its research capacity and strengthen shared interests in key areas including ethnobotany, plant conservation, public and botanic garden studies and biogeography. (See Table A)

Plants provide basic resources and services to all of society. Balancing the demands for plant resources from a human population that is rising to over 9 billion people by 2050 in the face of threats of climate change and continued habitat loss is a central challenge for this generation and a core mission responsibility for the ICTB. Plant resources, wild and cultivated, will be impacted by climate change. The habitats that provide wild resources and ecosystem services will be subject to ecological change. While the cropping systems that currently support agriculture will change as water and nutrient systems change so new cultivars better suited to the changed environment will be needed. The areas in the tropics currently producing bananas and coffee are unlikely to be producing those crops in the future as rainfall patterns and temperature change.

The extinction of plant diversity and loss of ecosystem services is recognized as a major limitation to sustainable development (Convention on Biological Diversity/Global Strategy for Plant Conservation). Plants provide food, fiber, fuel, shelter, and medicine for all individuals on the planet. Healthy ecosystems based on plant diversity provide the conditions and processes that sustain life and are essential to the well-being and livelihoods of all humankind. Plants also form the basis of the trophic pyramid in all terrestrial and most marine ecosystems on which we and all other animal species inevitably depend. In addition, plants provide a vast multitude of natural resources for humanity, especially in the developing world. They provide the basis for all of our food, most medicines and many other materials essential for our daily lives.

The research strengths of existing FIU faculty and NTBG staff to be associated with the ICTB include (Table A):

Table A

ICTB Research Area	**FIU/ NTBG Faculty**
Tropical Organismal Botany	Richards, Bennett, Ortega/Lorence, Wood, Perlman, Flynn
Economic Botany	Bennett, Liu/ Ragone, Winter
Plant Systematics	Feeley, Bennett, Ortega/Lorence, Clark, Flynn
Plant Ecology	Richards, Koptur/Clark
Invasive Species	Richards, Koptur, Liu/Winter
Plant Conservation Biology	Liu, Feeley, Von Wettberg, Maunder/Winter, Clark, Wood, Perlman
Climate Change and Plant Diversity	Feeley, Von Wettberg, Richards
Botanic Garden Policy and Strategy	Maunder/Wichman
International Conservation Policy	Liu, Maunder/ Wichman, Clark
Plant Genetic Resources/Crop Wild Relatives	Von Wettberg/ Winter
Tropical Horticulture	Maunder/Ragone
Biodiversity and Biogeography	Ortega/Lorence, Clark
Plant-Animal Interactions	Liu, Koptur

The ICTB is a unique opportunity to bring together several traditionally isolated research and teaching areas-namely ethnobotany (including economic botany), tropical ecology, conservation biology and sustainable agriculture. The ICTB will be uniquely placed to produce innovative

research that can guide and inform land use and resource management in the tropics.

B. Provide a short narrative assessment of how the establishment of the educational site supports the university mission and the goals incorporated into the university strategic plan and Board of Governors State University System Strategic Plan.

Florida International University (FIU), as one of the nation's largest public universities, has a mission to provide Worlds Ahead education, research and outreach on urban, international and environmental issues. The FIU College of Arts and Sciences comprises a wide range of expertise in agriculture, botany and environmental sciences, chemistry, biology, economics and international trade, in order to address emerging agricultural issues and concerns. FIU has a strong tradition in tropical biology and specific expertise in tropical botany. There is a tradition of effective collaboration with Miami botanical institutions including the National Tropical Botanical Garden, Fairchild Tropical Botanic Garden and the Montgomery Botanical Center. FIU is building strong partnerships with national networks (e.g. APGA) and botanical centers in China, Latin America and Sub-Saharan Africa.

The main objectives of the proposed ICTB are to (1) to strengthen the quality and reputation of a premier team of FIU and NTBG researchers that work on collaborative projects in tropical botany, (2) to foster strong collaboration and external funding through our partnerships with botanical institutes in south Florida, nationally and globally, and (3) respond to the pressing need to provide evidence- based knowledge on the causes, mechanisms, outcomes and tools relating to the decline, conservation and sustainable use of tropical plant resources.

The ICTB is a multidisciplinary center focusing on collaborative research, teaching and professional training in tropical botany science topics that represent areas of strength for faculty members in the College of Arts & Sciences (CAS). Participating departments include Biology and Earth and Environment.

The ICTB headquarters at The Kampong will be the hub for FIU's tropical botany program and will serve the existing local, national and global collaborations. The proximity of a number of world-class botanical institutes (including but not limited to the Montgomery Botanical Center and Fairchild Tropical Botanic Garden) provides the ICTB with unmatched access to research partners and botanical resources. The ICTB will have access to the diverse collections, ecological reserves and resources held by the NTBG in Hawaii. NTBG manages the most comprehensive cultivated tropical plant collection in the US.

The ICTB will encompass activities across the many South Florida sites where FIU botanists are working. The Kampong, the ICTB headquarters, will serve a primary graduate and professional focus with resident faculty and their associated graduate students, while ICTB undergraduate activities will occur at Fairchild, a short drive from The Kampong, and at FIU's MMC. The ICTB will host scientific and professional symposia, graduate seminars, professional courses, and public

fee generating educational events. FIU will explore the feasibility of offering a number of Professional Masters Degrees, the first likely to be in Public Garden Management with a special focus on botanic gardens and plant collections. Discussions with American Public Garden Association (APGA) indicate a demand for this degree. This degree would be developed in conjunction with our local network of botanic gardens and our international partners. Staff from those collaborating institutions will play an important teaching and mentoring role.

The ICTB will deliver the following strategic advantages to FIU (Worlds Ahead Strategic Plan/FIU goals):

- Impact the South Florida economy by creating jobs, establishing Miami as a hub for tropical botany and inducing students to relocate to South Florida to study, train and work at the ICTB and meet the need for a greater investment in botany training in the US due to shortages of botanists at government agencies
- Educate students
- Support graduate students
- Offer opportunities for FIU students to apply knowledge to the real world
- Support faculty ambitions and research goals
- Increase faculty productivity
- Increase interdisciplinary interactions
- Engage with the local and global community
- Link to broader programs and consortia both locally and globally
- Translate research into usable products
- Deliver a positive ROI as defined in Phase III of the implementation plan timeline
- Enhance FIU's investment in the ICTB by securing significant and sustained external funding
- Develop a botany track at the undergraduate level
- Invest in a distinguished faculty, FIU has a world-class botany faculty and the ICTB will further grow that team through incremental hires.
- Demonstrate the utility of FIU to the South Florida community through research in ethnobotany, traditional plant use, sustainable agriculture and crop production and botanic garden management

The ICTB will explore collaborative research and teaching opportunities with the Chaplin School of Hospitality and Tourism Management with a focus on tropical food and culinary traditions

The ICTB will build on The Kampong's history of working with local schools and community groups in Coconut Grove. For instance The Kampong currently works with the BarnYard, a program of Coconut Grove Cares, to provide after school education to children from the West Grove and has an education program with Carrolton School. The ICTB plans to work with local schools to promote STEM education through tropical botany with a special focus on working with schools serving poorly resourced communities. Through the ICTB's linkage with Fairchild Tropical Botanic Garden faculty will continue to contribute to the Fairchild Challenge, an award winning schools science education program. The Fairchild Challenge works to encourage Miami school children to consider

biology as a career and to create a pipeline whereby students can proceed to university to study biology and specifically botany.

Table B

ICTB Contribution to FIU World Ahead Strategy

Worlds Ahead 2010-2015	**ICTB Alignment with Worlds Ahead Strategic Plan**
(1) Revitalize and expand financial base	The ICTB will generate revenue from education and training programs, federal, industry, foundation and philanthropic funding, and engagement with a wide variety of professional stakeholders in the US and internationally.
(2) Achieve enhanced student learning and academic excellence	The ICTB will provide a unique portfolio of teaching and training opportunities for undergraduate, master and doctoral students. Access to the NTBG collections and resources in Hawaii provides a unique opportunity for FIU students.
(3) Enhance quality, quantity and impact of research and creative initiatives	The ICTB will provide an environment conducive to increasing scholarly productivity. Importantly the critical mass of ICTB faculty, including NTBG staff and collaborating institutions, will raise FIU's status as a center for tropical botany. The ICTB will generate significant numbers of publications in top tier academic journals and will generate influential policy papers on key environmental matters.
(4) Engage community in collaborative problem solving	The ICTB by providing leadership in an area of science that is accessible to all sectors of society provides tremendous opportunities for university outreach. All sectors of society use and appreciate plants. The ICTB will build on existing community and school outreach programs initiated by The Kampong (NTBG) and other Miami partners.
(5) Globalization	The ICTB, by building an international network of collaborating researchers and institutions the ICTB can facilitate international learning, international collaborations and ensure that FIU plays a key part in advancing interdisciplinary research on global issues.
(6) Environment	The ICTB responds directly to the need to enforce FIU's preeminence in tropical ecological research and to develop new interdisciplinary graduate degrees in environmental science, policy and management.

The ICTB will advance the University's mission by focusing on one of the major strategic themes, namely, the environment, and by facilitating state-of-the–art research and enhancing funding opportunities in this area. Tropical Biology was identified as a natural area for research and development at FIU in its Millennium Strategic Planning and has continued to be highlighted in University planning. The FIU ICTB has unique features relative to centers and

institutes at other state universities. The ICTB will bring together faculty from several FIU Departments and Colleges, namely the Chaplin College of Hospitality and Tourism Management, the College of Arts and Sciences and the College of Architecture + The Arts.

The proposed ICTB will directly serve the goals identified for the 2012-2025 State University System's Board of Governors Strategic Plan (Table C):

Table C : ICTB Contribution to SUS Strategic Plan

State University System of Florida Goal	**ICTB response**
Strengthen quality and reputation of academic programs and universities	The ICTB will convene a strong group of researchers and through coordination and support enhance the quality and reputation of their work. A key part of the ICTB's work will be building global partnerships for research and training.
Strengthen the quality and reputation of scholarship, research and innovation	The ICTB through working with collaborative partners strengthen the reputation of South Florida as a place to study tropical botany.
Increase degree productivity and program efficiency	The ICTB is committed to encouraging the study of botany and supporting the progress of our students.
Increase the number of degrees awarded in STEM and other areas of strategic emphasis	Tropical botany and its practical applications provide extraordinary opportunities for advancing the STEM agenda both within the university and with the ICTB's partners.
Increase research and commercialization activity	ICTB will be working with industry partners and with communities using tropical plant resources so increasing the opportunities for translational research and the commercialization of research.
Increase collaboration and external support for research activity	The ICTB is built on a unique public university-not for profit partnership between FIU and NTBG and is supported by a large group of collaborating institutions and agencies.
Increase levels of community and business engagement	The work of the ICTB will be interpreted in many of our public garden partners (e.g. NTBG and Fairchild) so increasing our visibility in the community. Similarly FIU will work with business partners to increase student learning opportunities, applied research and financial support.

The ICTB will build a strong network of collaborating institutions and agencies. Existing (in bold)

and potential collaborating institutes and centers include:

Florida partners:

Fairchild Tropical Botanic Garden

Montgomery Botanical Center

Naples Botanic Garden

USDA Chapman Field

Fruit and Spice Park

Patricia and Phillip Frost Museum of Science

National and global partners:

World Conservation Union/IUCN

Smithsonian Institution

American Public Gardens Association

Botanic Gardens Conservation International

Conservation International

Center for Plant Conservation

Chinese Academy of Sciences

Consultative Group on International Agriculture Research

Organization for Tropical Studies

TABLE D: Number of undergraduate and graduate courses listed in Florida SUS catalogues from 2009/10 to 2012/13; Florida Polytechnic University and New College of Florida not included. Data from Transfer Evaluation System (TES® 3.0, accessed Feb. 27-28, 2014) and queried for BOT (Botany) courses.

University	Under-graduate Lecture	Under-graduate Lab	Graduate Lecture	Graduate Lab	Under-graduate Ethno-botanical courses[1]	Graduate Ethno-botanical courses[1]
Florida Agricultural and Mechanical University	0[2]	0[2]	0	0	0	0
Florida Atlantic University	6	6	2	2	0	0
Florida Gulf Coast University	6	4	0	0	1	0
Florida International University	**13**	**12**	**22**	**18**	**1**	**2**
Florida State University	7	4	2	0	1	0
University of Central Florida	11	8	2	1	3	0
University of Florida	10	4	11[3]	3[3]	1	0
University of Florida	10	4			1	0
University of North Florida	5	5	1	1	0	0
University of South Florida	9	3	3	2	2	0
University of West Florida	10	7	5	3	1	1

[1] Includes Economic Botany, Ethnobotany, Plants in Human Affairs, Medical Botany, Medicinal Botany, Plants and Man, Plants and Society, Culinary Botany Across the Cultures

[2] No BOT courses but has an active horticulture program

[3] These courses last listed in 09/10

The SUS has a number of centers for environmental issues and sustainability and several centers that have tropical foci or tropical associations. However, there is not a center that emphasizes tropical botany or ethnobotany. UF has a Center for Tropical Agriculture that is part of IFAS and is located in Homestead, FL; FIU faculty collaborate with researchers at this Center. UF also had a Center for Subtropical Agroforestry but it was terminated in 2013.

The FIU ICTB is well positioned to lead the state in undergraduate and graduate botanical education, especially tropical botany and ethnobotanical subjects (Table D). The ICTB program covers all tropical botanical activities by FIU faculty. Undergraduate programs will continue to be delivered at MMC and FTBG. FIU has the greatest number and most diverse undergraduate and graduate botany offerings in the SUS, including a variety of ethnobotanical courses offered at both the undergraduate and graduate level (Table D). FIU is the only SUS University to offer a course in tropical botany at the undergraduate level. In 2014 FIU will begin to offer a tropical systematics course at the graduate level through the Kampong; this course was previously taught through the UF but was last listed in their catalogue in 2009/10 (BOT 5685C). This is currently the only graduate offering in tropical botany in the SUS.

Research, teaching and program development will be supported from a variety of research funding sources that range from local through national and international sources, and from public to private. The proposed ICTB faculty recent and current funding includes:

- National Science Foundation
- National Institute of Health
- Department of Interior (through Everglades National Park)
- USAID
- USAID HED
- USAID Feed the Future Program
- South Florida Water Management District
- US Fish and Wildlife Service
- Florida Wildflower Council
- Florida Native Plant Society
- Garden Club of America
- Fulbright Hayes
- USDA HIS
- USDA NRCS
- NIFA Florida-Caribbean Consortium for Agriculture Education and Hispanic Workforce Development

- Howard Hughes Medical Initiative
- Mohamed bin Zayed Species Conservation Fund
- National Geographic Society
- NASA
- Fairchild Tropical Botanic Garden
- Amazon Conservation Association

C. Provide a timetable of critical benchmarks that must be met for full implementation which can be used to monitor progress (planning, design, funding, construction, etc.). The timetable should also include ensuring appropriate accreditation of the proposed educational site and any proposed programs requiring specialized accreditation, if required.

The five-year implementation plan for establishing the ICTB consists of:

- Phase I (Table E) is the construction and fitting of the ICTB headquarters at The Kampong, a tropical botanical garden in Coconut Grove, owned by the National Tropical Botanical Garden. The ICTB will be the hub for FIU's tropical botany program and will serve the existing local, national and global collaborations. FIU has received the capital funds ($5 million) needed to construct the ICTB from the William R. Kenan, Jr. Charitable Trust and the Batchelor Foundation.

- Phase II (Years 1, 2, 3 on Table F). The ICTB is based in large part on the reallocation of existing faculty and their expertise, established and long running collaboration with NTBG and the support of strong and influential donors. Recruitment for the Director position has been completed with the appointment of Dr. Chris Baraloto, who will begin in January 2015. In Year 1, senior researchers from participating departments including Biology and Earth and Environment will conduct their research at the ICTB. The ICTB will build on FIU's established research and instructional preeminence in tropical botany. All FIU faculty members will retain their current research and teaching assignments. In Year 1, Executive Staff and Program Manager positions will start and will be in charge of routine daily operational and coordination of educational activities of the ICTB. A part-time Receptionist will be hired in Year 3. We will explore synergies and efficiencies with the existing Kampong staff that share the location.

- Phase III (Years 4, 5 and subsequent years)
  The ICTB and the strong collaboration with NTBG and other partners will bring a return on investment that demonstrates FIU's national and international preeminence in tropical botany, leading to increased academic productivity, increased FIU brand strength and a diversified funding base for tropical botany. ICTB will be operated to ensure it runs as a breakeven facility and indeed it is planned that after an initial period of operation they will generate a

surplus for CAS starting in Year 1 (Table F).

Traditionally a strong botany program uses a wide variety of collection-based resources. The ICTB through a collaborative approach will not have to build some of these expensive resources. FIU faculty will continue to use the facilities at FTBG including the herbarium, library and laboratories. The primary partner, NTBG, holds a rich botanical library, Loy McCandless Marks Botanical Library, and extensive herbarium in the Botanical Research Center on Kauai. Similarly ICTB faculty has access to the library and herbarium of Fairchild Tropical Botanic Garden in Miami. The ICTB has unparalleled access to some of the richest plant collections in the world, most notably those of NTBG plus local collaborators at Montgomery Botanical Center and Fairchild Tropical Botanical Garden. Globally we have collaborations with important tropical botany institutions, a prime example being Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, China (MOU established 2013.)

Table E

ICTB HQ Construction Cost (Donation)

Description	Estimate	Year 1	Year 2
Phase 1	$ 3,152,500	$ 1,576,250	$
FF&E	$ 267,728	$ -	$ 267,728
Site Parking + Perimeter Areas	$ 500,000	$ 300,000	$ 200,000
Subtotal Buildout & Improvements	$ 3,920,228	$ 1,876,250	$
Hard Cost Contingency (5%)	$ 196,011	$ 93,813	$ 102,199
Subtotal Hard Costs	$ 4,116,239	$ 1,970,063	$ 2,146,177
Architecture & Engineering	$ 123,487	$ 59,102	$ 64,385
Legal & Professional	$ 41,162	$ 19,701	$ 21,462
General & Administrative	$ 41,162	$ 19,701	$ 21,462
Media Equipment	$ 87,000	$ 87,000	
Telecom/Wireless/Security Hardware	$ 97,000	$ 97,000	
Soft Cost Contingency (12%)	$ 493,949	$ 236,407	$ 257,541
Subtotal Soft Costs	$ 883,761	$ 518,911	$ 364,850
Total Build Out	$ 5,000,000	$ 2,488,973	$ 2,511,02

Table F

Revenue	Year 1	Year 2	Year 3	Year 4	Year 5
E&G Salary Support	$530,106	$584,920	$629,577	$661,043	$645,167
Sponsored Research	$312,413	$1,228,091	$1,289,496	$1,353,970	$1,421,669
Foundation Grants	$0	$150,000	$200,000	$250,000	$300,000
Contributions (Cash)	$0	$105,000	$140,000	$175,000	$210,000

Instructional - Workshops	$384,500	$442,000	$449,500	$464,500	$479,500
PO&M	$0	$0	$0	$0	$0
Total Revenues	**$1,227,019**	**$2,510,011**	**$2,708,573**	**$2,904,513**	**$3,056,336**
Operating Expenses	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
FTE's	*5.60*	*6.10*	*7.10*	*7.60*	*7.60*
Salaries and Benefits	$630,058	$762,106	$860,463	$929,836	$943,784
E&G Salaries	*$530,106*	*$584,920*	*$629,577*	*$661,043*	*$645,167*
Sponsored Research Salaries	*$18,952*	*$94,970*	*$106,409*	*$117,040*	*$118,795*
Auxiliary / Gift Funded	*$81,000*	*$82,215*	*$124,477*	*$151,754*	*$179,822*
Donor Events	$15,000	$15,000	$15,000	$15,000	$15,000
Insurance			$16,000	$16,000	$16,000
Sponsored Research Direct Costs	$262,633	$1,071,637	$1,118,529	$1,169,145	$1,231,699
Foundation Grant Field Expenses	$0	$112,500	$150,000	$187,500	$225,000
Instructional Costs - Workshops	$169,390	$179,228	$180,512	$183,078	$185,645
Office Supplies	$1,500	$1,500	$1,500	$2,000	$2,500
Utilities			$38,090	$38,090	$38,090
Property Operation & Maintenance	$7,500	$7,500	$49,689	$49,689	$49,689
Telecom/Wireless expenses	$12,600	$12,600	$25,200	$25,200	$25,200
Security	$12,000	$12,000	$12,000	$12,000	$12,000
College Overhead Fee	$23,070	$26,520	$26,970	$27,870	$28,770
Shared Services Fee	$50,764	$56,749	$71,256	$76,147	$77,158
Total Operating Expenses	$1,184,515	$2,257,341	$2,565,208	$2,731,555	$2,850,535
Operating Income	**$42,504**	**$252,671**	**$143,364**	**$172,958**	**$205,802**
Margin on Operating Income	*3%*	*10%*	*5%*	*6%*	*7%*
Depreciation	$0	$63,820	$128,205	$128,205	$128,205
Total Expenses	$1,184,515	$2,321,161	$2,693,413	$2,859,761	$2,978,740
Net Income	**$42,504**	**$188,851**	**$15,159**	**$44,752**	**$77,596**
Transfers In (Gifts)	$5,000,000	$0	$0	$0	$0
Transfers Out (Construction)	$2,488,973	$2,511,027	$0	$0	$0
Net Change in Assets	**$2,553,531**	**($2,322,176)**	**$15,159**	**$44,752**	**$77,596**
Beginning Fund Balance	$0	$2,553,531	$231,355	$246,514	$291,266
Ending Fund Balance	$2,553,531	$231,355	$246,514	$291,266	$368,862

* Proposed three (3) new faculty lines will be filled subject to availability of funds and resources

II. Need and Demand Assessment

A. Provide a detailed assessment of unmet local student demand for access to academic programs in the vicinity of the proposed educational site. Complete Table 1 in Appendix A to enrollment projections for unduplicated student headcount and FTE by degree program and level.

The ICTB will offer a combination of educational and training programs that will attract both traditional and non-traditional students. The ICTB's program will include regular academic training as well as non-credit vocational and professional training.

The ICTB will be a research center that will provide mentoring to undergraduate, doctoral, post-doctoral and professional students through their integration with the research foci of the faculty affiliates.

Currently, no public or private state universities in South Florida offer accredited or industry-recognizable short-duration courses, Certificates, or Workshops in specialized Tropical Botany, and Tropical Biology.

B. Provide a detailed data-driven assessment that describes unmet local, regional and national workforce need for programs and services to be offered at the proposed educational site. In the appendices, provide letters of support from the local community and business interests.

A recent study by Kramer *et al.*, (Annals of the Missouri Botanical Garden, 99(2): 172-179, 2013) has identified the need for a greater investment in botany training in the US: **"**Despite the fundamental role plant science plays in addressing global environmental issues, a recent survey of nearly 1600 members of the botanical community in the United States revealed a severe shortage in the nation's botanical capacity or resource capabilities that support the advancement of plant science. The survey and a subsequent published report detailed shortages of botanists at government agencies, a wave of upcoming retirements, and an alarming decline in botanical degree programs and course offerings at the nation's colleges and universities" (from original study: http://www.bgci.org/files/UnitedStates/BCAP/bcap_report.pdf.)

Many universities are merging botany and zoology departments. In 1988, 72% of the nation's top 50 most funded universities offered advanced degree programs in botany; by 2010 more than half of those universities had eliminated their botany programs. There has been a 50% decline in undergraduate botany degrees and a 40% decline in advanced botany degrees between 2000 and 2008. The American Public Garden Association (APGA) has recognized the urgent need for professional training in botanic and public garden administration.

The National Research Council (New Biology for 21st Century Challenges) emphasizes that approaches are necessary to address the current world challenges of sustaining food production, the natural environment, and energy systems. USDA and USAID research priorities continue to include food security and sustainability, climate change, bioenergy, food security, and food safety.

III. Academic Programs and Courses

A. Provide a list of the degree programs, partial programs, or college credit certificates and courses to be offered at the proposed educational site by year five or the Final Year of implementation if different, using Table 1 in Appendix A. The proposed degree programs must be identified by six-digit CIP Code, by program title, and degree level.

See Appendix A – Programs and Enrollment

B. Provide an explanation as to how the proposed degree programs and courses will be affiliated with similar programs offered on the central campus and/or other educational sites of the university. Will they be independent or an extension of existing programs?(Please see BOG regulation 8.011 (5))

The proposed degree, certificate, workshop programs will be affiliated with the home department. There are no similar programs offered on the central campus and/or other educational sites of the university.

C. Provide an assessment, supported with data, that justifies any duplication of degree programs and services that might already be provided by an existing state university or Florida College System campus in the vicinity of the proposed educational site. Describe any discussions that have taken place with affected colleges and universities and provide letters of support or letters of concern in the appendices.

The proposed center is not offered anywhere else in the South Florida region. The FIU ICTB is well positioned to lead the state in undergraduate and graduate botanical education, especially tropical botany and ethnobotanical subjects (Table D). The ICTB program covers all tropical botanical activities by FIU faculty. Undergraduate programs will continue to be delivered at MMC and FTBG. FIU has the greatest number and most diverse undergraduate and graduate botany offerings in the SUS, including a variety of ethnobotanical courses offered at both the undergraduate and graduate level (Table D). FIU is the only SUS University to offer a course in tropical botany at the undergraduate level. In 2015 FIU will begin to offer a tropical systematics course at the graduate level through the Kampong; this course was previously taught through the UF but was last listed in their catalogue in 2009/10 (BOT 5685C). This is currently the only graduate offering in tropical botany in the SUS.

IV. Administration and Student Support Services

A. Describe the administrative structure of the proposed educational site and how it will relate to the central administration of the university. Include any necessary funding in the financial plan outlined in Table 2 of Appendix A.

All faculty listed below have an interest in being part of the ICTB. (Table G)

Table G: Core Faculty / Year 4 - 100% Staffing Levels

FIU Core Faculty	Titles	Salary Source	% of Effort
Chris Baroloto	Director of ICTB	E&G/C&G	65%/10%/25%
Brad Bennett PhD	Professor	E&G/C&G	42%/8%
Eric Bishop von Wettberg PhD	Assoc. Professor	E&G/C&G	42%/8%
Ken Feeley PhD	Assoc. Professor	E&G/C&G	42%/8%
Javier Francisco Ortega PhD	Professor	E&G/C&G	42%/8%
Suzanne Koptur PhD	Professor	E&G/C&G	42%/8%
Hong Liu PhD	Assoc. Professor	E&G/C&G	42%/8%
Jennifer Richards PhD	Professor	E&G/C&G	42%/8%
Mike Maunder PhD	Assoc. Dean	E&G	0.10%
Faculty 1	Professor	E&G/C&G	42%/8%
Faculty 2	Assoc. Professor	E&G/C&G	42%/8%
Faculty 3	Assoc. Professor	E&G/C&G	42%/8%

B. Describe how the proposed site will provide student services, either onsite or online from the central university campus.

All student services including academic advising will be operated from Modesto A. Maidique campus. Secured internet service will provide online access to all resources available from the campus and available from the ICTB headquarters.

C. Provide a plan to provide library services and other instructional resources that will support the proposed programs. Include any necessary funding in the financial plan outlined in Table 2 of Appendix A.

The FIU library has in stock more than 339,800 books, monographs, reference materials, journals, and other library materials on agriculture and environmental issues (TABLE H). The library's average annual budgets for books and serials in Earth and Environment Department for the last two years were around

$15,000 and $30,000, respectively. These numbers do not include the library's budgets spent on cognate areas. We do not anticipate the need for any additional resource for this purpose.

TABLE H

Number of Periodicals (in hard copies), Electronic Books/Journals and All Library Materials in Agriculture and Environment Field in the FIU Library, August 2012

Keywords, Searched for	Periodicals	Electronic Books/Journals	All Library Materials (Including Books)
Environmental	1858	53,128	87,525
Ecology	411	3,092	13,924
Pollution	328	8,819	18,749
Wildlife	226	3,182	7,715
Conservation	765	13,508	31,920
Toxicology (environment)	170	1,148	3,379
Population	665	7,479	25,888
Energy (conservation)	1366	245,454	272,392
Forestry	244	957	6,801
Natural resources	509	5,262	15,474
Solid waste (pollution)	68	4,992	6,012
Renewable (energy, power)	138	13,215	14,139
Sustainability	19	3,631	10,155
Biodiversity	48	288	1,243
Water	704	37,804	64,032
Agriculture	1869	16,569	58,247
Environmental economics	42	1,513	2,817
Environmental policy	360	5,635	12,315
Environmental Management	256	21,454	26,874
Raw Total	**10,046**	**447,113**	**679,601**
Reduction of 20% for overlap Keywords	(5,023)	(223,565)	(339,800)
Estimated Total	**5,023**	**223,565**	**339,800**

V. Budget and Facilities

A. Provide a projected operational budget using Table 2 in Appendix A that includes revenues and expenses out to year five, or the final year of implementation if different. Provide a narrative that explains the cost assumptions reflected in Table 2. Include the operational costs on the proposal cover page.

B. Use Table 3 in Appendix A, to identify each facility or facilities required to establish the proposed educational site, and any additional facilities that will be required once

the site has reached its expected size and enrollments. Include capital facility costs on the proposal cover page.

C. Describe ownership of the new location and provide documentation of ownership or lease agreements, to include any special clauses, easements, or deed restrictions. If the property is a gift, provide the gift agreement. Please provide information on the type of ownership if the site is leased or owned (if leased please provide information on the duration of the lease and the entity that owns the lease). If the site is joint-use please provide the name of the other entity in the joint agreement as well as the total number of students this site will serve from year 1 through year 5.

Gift agreement is attached.

D. Are the facilities owned or leased by the University?

(X) Owned ( ) Leased

VI. Addendum for International Campuses and Special Purpose Centers

If the proposed site is international, include a copy of any MOU or other agreements related to the site as an appendix

(X) The University certifies that all requirements of BOG Regulation 8.009(3)(f) have been met.

List of Letters of Support:

- Organization for Tropical Studies
- National Tropical Botanic Garden
- IUCN Species Survival Commission
- MOU Conservation International

APPENDIX A

TABLE 1 - ICTB

DEGREE PROGRAMS PLANNED AND PROJECTED ENROLLMENTS

(Annual Unduplicated Headcount and FTE)

CIP	Doctoral Degree	Degree	Year 1		Year 2		Year 3		Year 4		Year 5	
Code	Program Title	Level	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	FTE
23.0101	Biology	D	0	0	0	0	20	1.88	30	2.81	30	2.81
	TOTAL DOCTORAL		0	0	0	0	20	1.88	30	2.81	30	2.81

APPENDIX A

TABLE 2 - ICTB

SUMMARY FINANCIAL PROJECTIONS TO FULL IMPLEMENTATION

Fiscal Year Ending June 30		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
General Operations Revenues		**2014**	**2015**	**2016**	**2017**	**2018**
Carry Forward from Prior Year		0	0	0	0	0
General Revenue/Lottery						
	State Allocations (GR/Lottery)	530,106	584,920	629,577	661,043	645,167
Tuition/Tuition Differential and Fees						
	Tuition (Marticulation)	0	0	21,763	32,644	32,644
	Tuition (Differential, 70% UG Support)	0	0	0	0	0
	Out of State Student Tuition Fees	0	0	3,276	4,914	4,914
Research Trust Funds (by title)						
	XYZ Trust Fund	0	0	0	0	0
Financial Aid and Academic Related Fees						
	Financial Aid	0	0	0	0	0
	Tuition (Differential, 30% Financial Aid)	0	0	0	0	0
	Out of State Financial Aid	0	0	0	0	0
	Student Technology Fee	0	0	0	0	0
	Stuudent Distance Learning Fee	0	0	0	0	0
	Other Fees (Material/Supply), Facility/Equipment, etc.)	0	0	0	0	0
Other Revenues						
	Sponsored Research	312,413	1,228,091	1,289,496	1,353,970	1,421,669
	Foundation Grants/Cash Contributions	384,500	697,000	764,461	851,942	951,942
Total Revenues		**1,227,019**	**2,510,011**	**2,708,573**	**2,904,513**	**3,056,336**

General Operations Expenses						
	Compensation and Employee Benefits	630,058	762,106	860,463	929,836	943,784
	Shared Services	50,764	56,749	71,256	76,147	77,158
	Incremental Shared and/or Contractual Services Costs	0	0	0	0	0
	Library Services/e-Collections	0	0	0	0	0
	Contractual Services	12,000	12,000	12,000	12,000	12,000

	Plant Costs and Operating Supplies	464,073	1,398,886	1,581,289	1,673,372	1,777,393
	Lease Agreements	0	0	0	0	0
	Financial Aid, Scholarships, Stipends	0	0	0	0	0
	Equipment	12,600	12,600	25,200	25,200	25,200
	List: Donor events	15,000	15,000	15,000	15,000	15,000
	List:	0	0	0	0	0
Total Expenses		**1,184,495**	**2,257,341**	**2,565,208**	**2,731,555**	**2,850,535**
Operating Net Revenues Over Expenses		**42,524**	**252,670**	**143,365**	**172,958**	**205,801**

NOTE: Add Year columns as necessary to cover the period of time needed for full implementation.

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