

**State University System (SUS)**  
**Florida Board of Governors**  
**2016-2017 Legislative Budget Request Instructions**  
**Forms I and II**

The main objective of Form I and Form II is to align the university's budget issues and dollar values with the goals and objectives of the strategic priorities and the 2015 University Work Plan established by each university.

For FY 2016-2017, each university should submit one Form I and Form II for each budget issue and any system-wide issue identified as a critical system-wide need. Any issues unique to a branch campus or a special unit (e.g., IFAS Workload Initiative) should not be rolled into the main campus request, but reflected separately by use of the forms provided.

For system-wide issues, consideration will be given to issues that allow for greater efficiencies through shared system resources or identified as a system-wide need. If requesting funds as such, please list all university participants of the initiative and check the box "Shared Services/System-Wide Issue".

If a university received non-recurring funds in 2015-2016 for a unique issue, and that issue is a university priority for continued funding in 2016-2017, please check the box "2015-2016 Non-Recurring Issue".

For new issues identified by a university as a priority issue for 2016-2017, please check the box "New Issue for 2016-2017".

**Please keep in mind that all issues submitted for consideration by the Board should align with the goals and objectives of the strategic priorities and work plan established by each university.**

**State University System  
Education and General  
2016-2017 Legislative Budget Request  
Form I**

<b>University(s):</b>	<b>Florida Institute of Oceanography (FIO)</b> Hosted by the University of South Florida (USF)
<b>Issue Title:</b>	<b>Support for FIO's marine lab facility, Keys Marine Laboratory (KML)</b>
<b>Priority Number</b>	
<b>Recurring Funds Requested:</b>	<b>475,000</b>
<b>Non-Recurring Funds Requested:</b>	<b>600,000</b>
<b>Total Funds Requested:</b>	<b>1,075,000</b>
<b>Please check the issue type below:</b>	
<b>Shared Services/System-Wide Issue</b>	<input checked="" type="checkbox"/>
<b>2015-2016 Non-Recurring Issue</b>	<input type="checkbox"/>
<b>New Issue for 2016-2017</b>	<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 Florida Institute of Oceanography (FIO), an Academic Infrastructure Support Organization (AISO) established by the Board of Governors (BOG), serves as the State University System (SUS) coordinating body for research vessels, equipment, marine laboratories and other shared-use facilities and services. Shared use of resources, expertise and infrastructure will maintain Florida as a leader in oceanographic and coastal education and research. Currently 21 staff members provide services to the 30 member institutions and agencies across the State of Florida.

FIO enables the SUS to provide a virtual intellectual and physical hub for the mature and diverse marine science enterprise that exists in Florida. Entities across academia, government, and the private sector have been collaborating for many years to meet the expectation of the FIO members and the BOG as defined by the AISO Memorandum of Understanding (MOU).

The BP Deepwater Horizon Disaster has created a much greater demand for research and monitoring of the Gulf of Mexico ecosystems to better understand the potential long-term impacts

to the Gulf marine resources. FIO continues to play a key role in documenting and disseminating information to Florida's citizens on the potential long term impacts of the oil spill and other natural disasters, this LBR is critical to achieving success in this endeavor.

The Florida Keys Marine Laboratory (KML) in Layton, Florida is a platform that provides unique opportunities for short and long term field and laboratory experiences and research for undergraduate and graduate students, academia and non-academia faculty and researchers from throughout the U.S. and internationally. The KML through a Federal grant recently has installed the most advanced saltwater system to expand the capacity to conduct laboratory experiments and manipulate water quality and hence allow on-site research not previously possible.

The Gulf of Mexico contains the world's third largest oil and gas reserves. Whether or not drilling takes place in Florida's water, the drilling could seriously impact the multi-billion dollar tourist and fishing industries. Additional, 2 million acres for lease sales for the hydrocarbon industry with water depths down to approximately 3,400 meters as well as off the Gulf and Cuba will drill: both of these activities could have dramatic impacts on Florida's economy. In fact, the latest drilling trends are in much deeper waters and closer to the moratorium lines. If an accident occurs, Florida's beaches and marine resources could be significantly impacted along Florida's gulf coastal waters flowing down to the Keys. The work of FIO researchers is critical for monitoring activities in order to protect Florida's economy. The FIO has the resources at the KML to provide reliable information and forecasts about many such concerns, but cannot be achieved without critical staff and state of the art equipment.

The receipt of requesting recurring funds will allow FIO to:

- FIO plans to introduce a certification course to state certified K-12 teachers to a 2-week field intensive course designed to engage and provide teachers with marine science teaching techniques that keeps them current in emerging ocean research and technologies. These teachers will also have the opportunity to expand their knowledge of the biodiversity, geochemistry and human impact of Florida's coastal and offshore ecosystems through a round-robin trip around Florida and applying it back in the classrooms.
- Ensure the KML's fleet maintains its Research Vessel designations to meet the new technical standards, and comply with safety provisions. Standards set by the U.S. Coast Guard are not optional and are expensive—all requirements for ensuring the safety of researchers, students and staff. With new regulations set by the USCG, we must provide and maintain credentials of our staff in order operate the research vessels. Establish high standards of safety throughout marine operations to prevent and minimize occupational injuries/illnesses aboard the vessels.
- The Keys Marine Lab has been visited by over 121 different user groups around Florida, nationally and internationally; including countries like Germany and Poland. The KML currently serves as the fifth location during the FIO's summer course and will be the field station to serve teachers in future course. KML affords the SUS members an opportunity to teach undergraduate and graduate students in one of the most unique marine ecosystems (coral reefs, mangroves, seagrasses etc....) to the State of Florida.
- With FIO now the sole operator of the KML, the need for critical personnel to support not only the increasing demands and usage trends at the Keys Marine Lab and maintaining the newly installed of the seawater system requires having experienced,

highly skilled crew, science and support staff to accommodate all the requests for vessel and personnel usage year round at the KML. Experience personnel and the necessary emergency resources at the facility needed will assure that faculty, researchers and students are safe and resources are readily available while performing their research along the waters of the Florida Keys.

The receipt of requesting non-recurring funds will allow FIO to:

- Upgrade and maintain its' state-of-the-art marine facility at a reasonable cost to member institutions. Procuring advanced satellite communication (e.g. Mondo pads for Skyping abilities) and equipment systems, students will be able to follow daily updates from their faculty remotely, as well as being able to interact directly with the other classmates from ship to shore or remotely from the Keys Marine Lab to classrooms, will enhance the faculty and students experience conducting courses or research. Day to day operation costs associated with the purchases would be covered through normal accounts and through grants received by the Guy Harvey Ocean Foundation (GHOF).
- Increase inventory of scientific equipment availability. Having specialized equipment such as the Multicorer that satisfies sediment sampling goals that can be cross-compatibility with larger-format multicorers; Acoustic Equipment to record fish location to coordinate with habitat and supplement stock assessments; Dynamic Position System to control propulsion systems for precision station keeping abilities.
- With the new unique salt water system at the KML, demand is increasing to conduct controlled experiments on various measure species. Purchasing holding tanks and other necessary equipment to address the demands of the salt water system is essential. The holding tanks can control temperature, light, monitor water quality, and capacity for water recirculation are needed to conduct research and meet requests to utilize the KML.
- A Remote operating vehicle (ROV) is essential to provide the faculty, students and researchers the ability to have a more complete data collection access to Florida's environmental parameters are essential as well providing a competitive platform for science and educational programs in the Gulf of Mexico. Currently FIO does not own an ROV and to continue to be competitive and provide state of the art equipment to conduct research and teaching an ROV is required. The ROV enables real-time observations without disturbing habitat and can be used to assess stocks, broadcast back to classrooms, public areas and streamed online for outreach purposes.

**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 FIO connects Florida's academia, public, private sectors and resources between the health and sustainability of the state's economy while supporting Florida's major engine of economic activities—ocean science. FIO, as a designated AISO provides shared resources, knowledge, laboratory space and equipment that has positioned the State of Florida as a national leader in

academia ocean science discovery allowing faculty, researchers and students the opportunity to better understand our oceans.

With Florida’s economy largely based on tourism and agriculture, and with ever-growing coastal populations and associated development, it can be said that no aspect of Florida’s economic health goes untouched by Florida’s oceans. In 2012, oceaneconomics.org estimated over 500,000 jobs are being supported by ocean resources—contribution of \$24.5 billion to Florida’s ocean economy; \$16.4 billion from recreation and tourism industry. Florida’s fisheries contributes approximately \$30 billion to the economy, much greater than citrus, cattle, ranching and space industry combined (\$14.5B).

FIO will continue to be positioned to support systems-wide SUS scientific leadership in an area unique to the State of Florida. Expanded access to share-use shore based facility (Keys Marine Lab) with peer researchers throughout the SUS will enhance the recruitment and retention of talented professors--more than 30 faculty members and researchers are currently working at an SUS institution where they graduated and have utilized FIO’s resources; FIO has exposed over 5,500 undergraduate and graduate students to STEM based field experiences representing real world research opportunities; attract more high ability Bachelor’s, Master’s and PhD students resulting in more degrees awarded in related high demand, high skilled and high wage targeted areas; increase interface with public and private employers of marine scientists leading to new job creation and economic growth; and foster cooperation and collaboration which will produce more publications (assisted over 475 journal publications have been produced by the SUS’s faculty), awards, and recognition for the SUS as a national leader in coastal oceanographic education and research.

Most importantly, the FIO have significantly strengthened the SUS’ competitive position in securing higher levels of R&D investment from the federal government, foundations and industry (i.e. Gulf of Mexico Research Initiative (GoMRI) is expected to release approximately \$80 million in competitive grants for consortia in late 2017; FIO as the named Gulf coast entity under the RESTORE Act will operate the Centers of Excellence Grants Program pumping approximately \$4 million in the coming fiscal year; pending more funding to be released by Treasury with the recent settlement. The RESTORE Act funds cannot be utilized for operate day-to-day operations; these funds can only be used to provide competitive, peer review scientific studies. FIO’s platforms have enabled over \$110 million in grants over the years and it is anticipated that the creation of FIO will continue to elevate the SUS’ status as a global hub of world-class oceanographic education and research.

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

	<b>Facility Project Title</b>	<b>Fiscal Year</b>	<b>Amount Requested</b>	<b>Priority Number</b>
<b>1.</b>				
<b>2.</b>				