

**State University System  
Education and General  
2020-2021 Legislative Budget Request  
Form I**

<b>University(s):</b>	<b>Florida Gulf Coast University</b>
<b>Issue Title:</b>	<b>University of Distinction</b>
<b>Date Issue Approved by University Board of Trustees:</b>	
<b>Recurring Funds Requested:</b>	<b>\$8,000,000</b>
<b>Non-Recurring Funds Requested:</b>	
<b>Total Funds Requested:</b>	<b>\$8,000,000</b>
<b>Please check the issue type below:</b>	
<b>Shared Services/System-Wide Issue for Fiscal Year 2020-2021</b>	<input checked="" type="checkbox"/>
<b>Unique Issue for Fiscal Year 2020-2021</b>	<input 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 2019 University Accountability 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.

In September 2017, Hurricane Irma made landfall in Southwest Florida, causing severe property damage and lost economic output throughout the region and the state while resulting in the death of 30 individuals in Florida alone. The following month, red tide began blooming off the coast of Southwest Florida, persisting to the extent that it became the fifth longest duration red tide in Florida history. In the midst of the red tide, blue-green algae blooms expanded from Lake Okeechobee to the Caloosahatchee River and estuary downstream, raising concerns not only about quality of life in the region but also the potential effects of algal toxins on human health. This extended water crisis in Southwest Florida from fall 2017 through early spring 2019 was a transformative series of events that shined a spotlight on Florida’s water woes, elicited renewed cries for help from a broad spectrum of public and commercial entities, and resulted in a

major investment by Florida lawmakers to get to the heart of the issues involved. These events also gave us a glimpse into a future where water-related hazards will be made worse by climate change.

The Water School initiative addresses key strengths of FGCU as detailed in its 2019 Accountability Plan:

- Meeting the unique needs of Southwest Florida in terms of an educated and skilled workforce
- Preservation of the environment
- Providing for the health and social welfare of the region
- Catalyzing economic development
- Promoting entrepreneurship
- Conducting applied research that directly impacts Southwest Florida issues (e.g. red tide)
- Fulfilling student aspirations

It also addresses one of the Top 3 Key Initiatives and Investments detailed in the 2019 Accountability Plan:

**Applied research to address issues critical to Southwest Florida**

“Stimulating increased research and scholarship relevant to the unique character, challenges and opportunities in Southwest Florida. A primary initiative will focus on issues related to water quality, allocation, availability, and management with concomitant ‘downstream’ effects on public health and economic development in our region.”


The Water School at Florida Gulf Coast University was established to address these and other water-related issues in Southwest Florida by bringing together faculty from across the university; forging partnerships with local communities; working with local organizations involved in environmental education and outreach; collaborating with research institutions across the state and country; and building research capacity to provide Southwest Florida the resources it needs to combat these issues and adapt to an ever changing world.

Part of this charge is to educate and train the next generation of leaders in Southwest Florida who will be responsible for addressing the region’s environmental issues, especially those related to water. The core academic programs of The Water School include undergraduate degree programs in Environmental Geology (B.S.), Environmental Studies (B.A.), and Marine Science (B.S.) complemented by graduate degree programs in Environmental Science (M.S.) and Environmental Studies (M.A.).

What is the need for graduates of these programs in Southwest Florida and more generally in the State of Florida? Not surprisingly it is robust and growing as the tables below suggest.


At the state level, the numbers are roughly **10,000 total job openings** between 2018 and 2026.

Table 1.



**Workforce Data/Statewide Impact**

State of Florida							
SOC Code	SOC Title	Employment				Total Job Openings	2017 Median Hourly Wage (\$)
		2018	2026	Growth	Percent Growth		
19-4091	Environmental Science and Protection Technicians, Including Health	1,557	1,726	169	10.9	1,673	18.89
21-1094	Community Health Workers	2,521	2,999	478	19.0	3,113	16.86
19-2043	Hydrologists	260	296	36	13.9	237	41.68
19-2041	Environmental Scientists and Specialists, Including Health	5,814	6,379	565	9.7	4,968	23.65
17-2081	Environmental Engineers	2,768	3,002	234	8.5	1,716	39.63




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Regionally, (i.e., Southwest Florida) the **total openings during this same time period amount to about 570.**

Table 2.

**Workforce Data/Regional Impact**

SW Region of Florida							
Workforce Development Area 24 - Charlotte, Collier, Glades, Hendry, and Lee Counties							
Employment							
SOC Code	SOC Title	2018	2026	Growth	Percent Growth	Total Job Openings	2017 Median Hourly Wage (\$)
21-1094	Community Health Workers	166	202	36	21.7	211	19.83
19-2041	Environmental Scientists and Specialists, Including Health	345	382	37	10.7	300	20.87
17-2081	Environmental Engineers	82	91	9	11.0	53	35.53

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Although first launched on World Water Day (March 22<sup>nd</sup>) in 2019, The Water School builds on over two decades of research and education by FGCU faculty, students, and staff on water issues in Southwest Florida and is now casting its net more broadly to include partners across the disciplinary spectrum. Primary faculty within The Water School are from the Department of Ecology and Environmental Studies, and the Department of Marine and Earth Sciences. However, affiliate faculty of The Water School are now being appointed from across the university representing four colleges and nine other departments at FGCU (Table 3). Furthermore, The Water School has created a Council of Directors to bring together the leadership of seven FGCU centers, institutes, and off-campus facilities to address water issues of regional concern (Table 4). Beyond the obvious environmental, economic, societal, and political impacts that water issues create, water also shapes the way we think, the way we feel, and the way we express ourselves, calling for an even broader perspective as we address these issues.

Table 3. Disciplines represented by Water School Primary and Affiliate Faculty at FGCU.

<b>Department</b>	<b>College</b>
Biological Sciences	College of Arts and Sciences
Chemistry and Physics	College of Arts and Sciences
Ecology and Environmental Studies	College of Arts and Sciences
Economics and Finance	Lutgert College of Business
Environmental and Civil Engineering	Whitaker College of Engineering
Health Sciences	Marieb College of Health and Human Services
Marine and Earth Sciences	College of Arts and Sciences
Mathematics	College of Arts and Sciences
Philosophy and Communication	College of Arts and Sciences
Psychology	College of Arts and Sciences
Social Work	Marieb College of Health and Human Services

Table 4. FGCU Centers, Institutes, and off campus facilities connected with The Water School through its Council of Directors.

<b>Centers, Institutes, and off campus facilities</b>	<b>College</b>
Center for Environmental and Sustainability Education	College of Arts and Sciences
Center for Agribusiness	Lutgert College of Business
Coastal Watershed Institute	College of Arts and Sciences
Emergent Technologies Institute	Whitaker College of Engineering
Everglades Wetland Research Park	College of Arts and Sciences
Regional Economic Research Institute	Lutgert College of Business
Vester Marine and Environmental Field Station	College of Arts and Sciences

As a relatively young, regional university, Florida Gulf Coast University and its academic programs often do not appear on the radar of national ranking services. Furthermore, these rankings are discipline specific, and the funding we propose for a University of Distinction is to support interdisciplinary work from across the university. We therefore offer the following as indicators of the strength of The Water School and its potential to contribute to a University of Distinction and to gain national recognition.

### Research Capacity

During fiscal year 2018-2019, The Water School faculty was awarded 15 external grants totaling \$2,459,379. Granting agencies included the National Science Foundation, National Institutes of Health, National Oceanic and Atmospheric Administration, Florida Sea Grant, and the Florida Department of Environmental Protection. In fiscal year 2019-2020, Water School faculty already have secured \$1,470,473 in new funding. Four proposals totaling \$794,819 are pending (we have been unofficially notified that two of these proposals have been recommended for funding at \$380,780). Awards for The Water School faculty since fiscal year 2018-2019 thus total \$3,929,852. In 2018-2019 grants and contracts secured by The Water School faculty represented 78% of the external awards to FGCU's College of Arts and Sciences and 28% of the total awards to the entire university. To put this into perspective, ranked faculty (primary) in The Water School represent only 12% of the ranked faculty in the College of Arts and Sciences and only 6% of the total ranked faculty at FGCU. Funded projects focus on harmful algal blooms, coastal vulnerability and sea level rise, climate change and hurricanes, water quality and its management, and environmental restoration. The first Water School proposal involving a newly appointed affiliate faculty member, in this case from the Marieb College of Health and Human Services, was recently submitted to the Florida Department of Health (\$308,000) and investigates the conditions leading to blue-green algae blooms and potential human health effects.

### Partnerships

Another measure of ability of The Water School to contribute significantly as a University of Distinction is the number and quality of partnerships it has developed in the region to address water-related issues through education, research, and outreach. The Water School faculty has taken the lead in facilitating the establishment of the Southwest Florida Regional Resiliency Compact. Although still a work in progress, this effort brings together representatives from

Charlotte, Collier and Lee Counties; from the municipalities of Everglades City, Marco Island, Naples Bonita Springs, Estero, Fort Myers Beach, Fort Myers, Sanibel, Cape Coral, and Punta Gorda; and the Captiva Erosion Prevention District to develop a regional plan for communities to adapt to climate change and increase coastal resilience.

FGCU also has established important partnerships to address water quality issues in the region, including harmful algal blooms. In April 2019, FGCU signed a Memorandum of Understanding (MOU) with Mote Marine Laboratory in Sarasota “to address the urgency for decreasing impacts of harmful algal blooms to Florida’s environment, economy and quality of life.” As a result of this MOU, FGCU and Mote scientists are working together to develop joint projects that address harmful algal blooms in the region. Other important partnerships are represented by FGCU MOUs with the Sanibel Captiva Conservation Foundation Marine Laboratory and with the Estero Bay Aquatic Preserve, the first aquatic preserve designated in the State of Florida.

Two signature partnerships in FGCU’s five-county service area are with the Conservancy of Southwest Florida and the Rookery Bay National Estuarine Research Reserve, both in Naples. The partnership with the Conservancy includes the creation of a joint Environmental Education and Outreach Program and the establishment of the Environmental Education Alliance of Southwest Florida, which are administered jointly, with 50% full-time-equivalent (FTE) of an FGCU faculty position dedicated to the effort. This faculty position is funded, in part, through an endowment made possible by the Conservancy. Moreover, FGCU and the Conservancy are collaborating with the Community Foundation of Collier County and the Southwest Florida Community Foundation to create Growing Climate Solutions: Path to Positive, a partnership to assemble community resources in response to growing threats from climate change in the region. Since opening its doors in 1997, FGCU has maintained a strong relationship with the Rookery Bay National Estuarine Research Reserve. This relationship has evolved over time and has focused on research, outreach, and restoration. FGCU currently provides one graduate assistantship for a student conducting research within the Reserve in coordination with Reserve staff and scientists.

FGCU also has partnered with University of Bangor, Wales, in support of scientific and education cooperation in the marine and environmental sciences. This exchange program brings faculty and students from Wales to Southwest Florida for a short course while staying in residence at FGCU’s Vester Marine

Field Station. FGCU faculty currently are contemplating a reciprocal program in Wales and have made an exploratory visit to Bangor University. As part of this partnership, one of FGCU's recent graduates in the M.S. Environmental Science degree program plans to continue his graduate education by working toward his Ph.D. through Bangor University beginning next spring. Closer to home, FGCU has an agreement with the University of South Florida to bring Ph.D. students in Environmental Science to FGCU's Everglades Wetland Research Park where they are advised by an FGCU faculty member. Three Ph.D. students from USF currently are completing their research through this agreement.

### Special Events and Symposia

The Water School also is working across campus to encourage and facilitate forums where the FGCU and local communities can gather to discuss important water and water-related issues. The goal is for FGCU and The Water School to be recognized in the region and beyond as the source of fact-based information and as a locus for convening discussions related to important issues of our time. This Fall, FGCU's Lucas Institute for Real Estate Development and Finance is bringing to campus Dr. Adrian Moore, Vice President of the Reason Foundation in Los Angeles, California, to talk about potential responses to water issues based on property rights, policy issues surrounding water, and potential externalities; and The Water School is working with FGCU's Center for Agribusiness and the Lucas Institute to host the First Annual Southwest Florida Agricultural Forum. Agriculture has an important role to play in helping to mitigate the water quality issues facing the region. Next Spring, FGCU's Everglades Wetland Research Park continues its Bernard and Susan Master 2019 Moonlight on the Marsh Distinguished Lecture Series, bringing noted speakers from around the world to engage Southwest Florida residents and visitors, as well as FGCU faculty and students, in issues related to water and wetlands; and The Water School is partnering with the FGCU Department of Philosophy and Communication to host "Philosophy Underwater: An interdisciplinary symposium on the climate crisis." This growing program of special events and symposia will help cement The Water School as a major contributor to the University of Distinction designation.

### Fiscal Planning

The spending plan (detailed in the included LBR Form II) is intended to advance the objectives of The Water School by providing the faculty, staff, operating funds and equipment to carry out the stated objectives.



Faculty positions span 19 full-time equivalent (FTE) lines over multiple academic units on campus. The faculty lines are for the expansion of efforts that will be taken to conduct interdisciplinary research and scholarly activity to enhance FGCU's expertise and abilities in the area of water. Staffing of 12 FTE is needed to support the operational capabilities of numerous facilities on and off campus that will support The Water School. These positions are important to the long-term viability of the facilities and related research capacity. Staffing positions will also provide necessary student support services.

Temporary employment funding will include adjuncts to support faculty release time for research and student assistantships focusing on field activities and research support.

Operating expenses include basic operations of an administrative unit; notwithstanding, The Water School's primary driver of expenses encompasses partnerships and subcontracts needed to expand the level of research and study with current and new organizations. Additionally, software, non-capital equipment and consumables are required for operations of facilities and labs.

Scholarship funding is intended to support student programs and efforts to study and participate in research programs and serve as an enticement in recruiting high quality students to The Water School and the programs listed above. These incentives will serve to attract additional high-achieving students who will pursue STEM degrees.

Library materials funding is needed for new databases and associated materials to address research challenges. These resources will support world class faculty associated with The Water School. The FGCU Library has a robust suite of resources, but is still missing some key elements researchers currently utilize and will expect. These resources focus on not only on chemistry, physical sciences and biology, but also business and engineering. Database costs are recurring with annual increases expected, as is the annual research and analysis needed for sciences and engineering.

A recurring equipment budget is established for ongoing needs as well as maintenance and replacement. The intent is to make initial equipment purchases

from this source of funding along with the salary savings and other funds associated with the first year of funding should this initiative be supported. After the initial investment, the ongoing budget will support the annual maintenance, upgrades and their periodic refreshment.

Florida Gulf Coast University is enthusiastic about the opportunities presented by the University of Distinction initiative. By advancing The Water School and all it encompasses, Florida Gulf Coast University envisions great success in addressing critical water-related issues and demonstrating that Florida is an attractive state in which to work, live and thrive.

**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 the issue focuses on expanding access to academic programs or student services, indicate the current and expected outcomes.*

FGCU's Return on Investment is defined by our students' success in their academic, career and life-long learning pursuits; and, by our contributions to the health, economic prosperity, and environmental preservation of Southwest Florida. Applied research success will result in myriad advances in water management that contribute to significant regional economic growth and sustainable development which *over time may be measured in the billions of dollars.*

The associated metrics that will be used to track the development and rising prominence of The Water School in the coming years will include, but not be limited to the following:

1. STEM degree production at undergraduate and graduate levels;
2. Contributions to practical water management solutions benefiting the region and beyond;
3. Community engagement/outreach measured by number of media contacts;
4. Number (percentage) of ranked faculty affiliated with The Water School and actively engaged in research (i.e., with publications or external grants awarded in AY);
5. Externally sponsored research grants and contracts;
6. Graduate students funded through research assistantships;
7. Number of internships developed that focus on water-related issues;
8. Number of undergraduate research opportunities supported; and
9. Placement of students in highly regarded doctoral programs.

We expect in the first year of funding to see growth in research expenditures.

- ✓ One-year Goal: 2019-2020: \$1 million alone in externally funded research expenditures in support of water research

As FGCU continues to implement its strategic plan and invest in regional employer and research partnerships to serve our students and communities, it will produce outcomes with strong economic impacts for our students and region, collaborate to find solutions that address critical water-related issues facing our state, and remain a sound steward and solid investment of taxpayer dollars.

**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>				

**2020-2021 Legislative Budget Request**  
**Education and General**  
**Position and Fiscal Summary**  
**Operating Budget Form II**  
(to be completed for each issue)

**University:** Florida Gulf Coast University  
**Issue Title:** University of Distinction

	<b>RECURRING</b>	<b>NON- RECURRING</b>	<b>TOTAL</b>
<u>Positions</u>			
Faculty	19.00	0.00	19.00
Other (A&P/USPS)	12.00	0.00	12.00
	-----	-----	-----
Total	31.00	0.00	31.00
	=====	=====	=====
<u>Salary Rate (for all positions noted above)</u>			
Faculty	\$1,810,000	\$0	\$1,810,000
Other (A&P/USPS)	\$504,200	\$0	\$504,200
	-----	-----	-----
Total	\$2,314,200	\$0	\$2,314,200
	=====	=====	=====
Salaries and Benefits	\$3,131,280	\$0	\$3,131,280
Other Personal Services	\$1,000,000	\$0	\$1,000,000
Expenses	\$2,118,720	\$0	\$2,118,720
Operating Capital Outlay	\$750,000	\$0	\$750,000
Electronic Data Processing	\$0	\$0	\$0
Library Resources	\$250,000	\$0	\$250,000
Scholarships	\$750,000	\$0	\$750,000
	\$0	\$0	\$0
	\$0	\$0	\$0
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Total All Categories	\$8,000,000	\$0	\$8,000,000
	=====	=====	=====