

IFIR # 1619

1. Project Title	FIU SMART Pipeline: Strengthening Minority Achievement & Results through Teaching			
2. Senate Sponsor	Manny Diaz			
3. Date of Request	01/14/2021			

4. Project/Program Description

FIU SMART will transform and reengineer STEM programs and courses to optimize the retention, graduation, marketability and career creation of minority science, mathematics, engineering, and computer science students. SMART will 1) institute state-of-the-art evidence-based instruction and advanced classroom assessment throughout critical STEM courses (including fully-online programs), 2) deploy interventions that promote equity, mental health and wellness, 3) amplify the new School of Universal Computing, Construction, and Engineering Education's (SUCCEED's) impact on innovative research and educational practices and 4) leverage this work to catalyze external investment and promote national prominence. The Initiative strategically targets transforming student success and graduation rates while developing 21st century skills necessary in a knowledge-driven economy, ultimately driving sustained production of a highly skilled, economically prosperous, and adaptable workforce.

5. State Agency to receive requested funds		Board of Governors
State Agency contacted?	Yes	

6. Amount of the Nonrecurring Request for Fiscal Year 2021-2022

Type of Funding	Amount
Operations	3,898,665
Fixed Capital Outlay	1,100,000
Total State Funds Requested	4,998,665

7. Total Project Cost for Fiscal Year 2021-2022 (including matching funds available for this project)

Type of Funding	Amount	Percentage
Total State Funds Requested (from question #6)	4,998,665	100%
Matching Funds		
Federal	0	0%
State (excluding the amount of this request)	0	0%
Local	0	0%
Other	0	0%
Total Project Costs for Fiscal Year 2021-2022	4,998,665	100%

8. Has this project previously received state funding?

Fiscal Year	Amo	ount	Specific	Vetoed	
(уууу-уу)	Recurring	Nonrecurring	Appropriation #		

9. Is future funding like	y to be requested?		Yes	
a. If yes, indicate nor	recurring amount pe	r year.	4,998,665	
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b. Describe the source of funding that can be used in lieu of state funding.

Not Applicable	



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10. Has the entity requesting this project received any federal as:	ssistance related to the COVID-19 pandemic?
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If yes, indicate the amount of funds received and what the funds were used for.

Direct aid to student impacted by Covid-19 and to provide housing and meal plan refunds.

11. Details on how the requested state funds will be expended

Spending Category	Description	Amount		
Administrative Costs:				
Executive Director/Project Head Salary and Benefits	No Salary Included	0		
Other Salary and Benefits	Administrative Assistant to support project activities (orders, hiring, payments, tracking, etc)	60,192		
Expense/Equipment/Travel/Supplies/ Other	Expenses, equipment and supplies for project administration, includes computer for administrative assistant and office supplies.	5,000		
Consultants/Contracted Services/Study		0		
Operational Costs: Other				
Salary and Benefits	Salary and benefits for 10 STEM education research and DBER faculty, 10 Faculty Fellows, 20 faculty participating in Faculty Institute, 300 undergraduate LAs, 10 graduate student fellowships, 3 post-doc researchers, & 5 operations staff.	3,663,473		
Expense/Equipment/Travel/Supplies/ Other	Expenses, equipment and supplies for project staff and project operations. Includes \$55,000 in travel to bring national leaders in STEM education to FIU, visits to cutting edge programs and facilities, and present outcomes across state and nation.	170,000		
Consultants/Contracted Services/Study		0		
Fixed Capital Construction/Majo	r Renovation:			
Construction/Renovation/Land/ Planning Engineering	Renovation of 4 or more existing traditional classrooms into active learning classrooms targeting STEM students and faculty development. Creation 4 small teaching labs.	1,100,000		
Total State Funds Requested (m	Total State Funds Requested (must equal total from question #6)			

12. Program Performance

a. What specific purpose or goal will be achieved by the funds requested?

FIU's SMART Initiative will transform and reengineer STEM programs and courses to optimize the retention, graduation, marketability, and career creation and placement of minority STEM students--thereby launching a new STEM paradigm. This will be achieved through implementing evidence-based instruction across the STEM disciplines and gateway courses, including enhancing the STEM Learning Assistant program to promote resilience, adaptability and diversity of LAs and students and developing virtual labs for introductory and intermediate STEM laboratory courses that are part of fully-online STEM programs. The project will lead to more highly prepared STEM professionals ready to drive the State's economic prosperity through innovation and entrepreneurship. At the same time, the Initiative will promote FIU's national reputation.

b. What activities and services will be provided to meet the intended purpose of these funds?



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Primary activities: 1) adaptation of best practices across FIU's STEM programs; 2) deployment of innovative evidence-based instruction and classroom assessment throughout critical STEM courses; 3) implementing interventions that promote mental health and wellness, especially for first generation and millennial students; and 4) expand STEM Education Research to assess practices and provide critical feedback to critical stakeholders. Activities include expanding training for experienced LAs and faculty using LAs through ongoing mini-workshops on pedagogy, mental health, equity and inclusion strategies. Development of online STEM labs will integrate virtual laboratory simulations that engage students in experimentation and exploration of disciplinary content, improving the development of fully online STEM Bachelor's degrees.

c. What direct services will be provided to citizens by the appropriation project?

Primary services are transformed educational experiences for minority STEM students. Specifically, critical STEM courses will integrate skills development, evidence-based instruction and mental health support to improve retention and graduation. Classrooms will be renovated to enable optimal collaborative learning. Undergraduate Learning Assistants (LAs) are critical catalysts in the transformation of FIU's STEM courses, as they facilitate learning with their peers while deepening their own understanding of content and collaboration. LAs will have improved training to improve their classroom effectiveness. Faculty will also be developed to improve their instructional practices, including in fully-online labs. Project faculty and staff will measure and disseminate impacts of efforts.

d. Who is the target population served by this project? How many individuals are expected to be served?

FIU undergraduates are primary population being served, including approximately 14,000 STEM majors enrolled at FIU. The project also serves ~350 undergraduates hired to facilitate learning as Learning Assistants as well as ~75 faculty participating in project professional development activities. Secondary populations served include non-STEM undergraduates enrolled in transformed courses as well as businesses hiring FIU graduates.

e. What is the expected benefit or outcome of this project? What is the methodology by which this outcome will be measured?

FIU minority STEM undergraduates are the primary population being served, including approximately 14,000 STEM majors enrolled at FIU, 80% of which are from underrepresented groups. All of these majors include multiple labs in their programs, with over 15,000 instances of enrollment in the 14 entry level labs in Biology, Chemistry, Physics, Earth & Environment, and Electrical Engineering in the 2019/2020 academic year. The project also serves ~350 undergraduates hired to facilitate learning as Learning Assistants as well as ~75 faculty participating in project professional development activities. Secondary populations served include non-STEM undergraduates enrolled in transformed co

f. What are the suggested penalties that the contracting agency may consider in addition to its standard penalties for failing to meet deliverables or performance measures provided for the contract?

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13. The owners of the facility to receive, directly or indirectly, any fixed capital outlay funding. Include the relationship between the owners of the facility and the entity.

Florida International University



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14.	14. Requestor Contact Information								
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15.	15. Recipient Contact Information								
	a. Organization	Florida In	ternational Unive	ersity					
	b. Municipality and	I County	Miami-Dade						
	c. Organization Ty	ре							
	□For Profit Entity								
	□Non Profit 501(c	2)(3)							
	□Non Profit 501(c	2)(4)							
	□Local Entity								
	☑University or Co	llege							
	□Other (please sp	ecify)							
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16.	Lobbyist Contact I	Information							
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