LOUISIANA BOARD OF REGENTS
BOARD OF REGENTS SUPPORT FUND

ENHANCEMENT PROGRAM

REVIEW OF COMPETITIVE PROPOSALS SUBMITTED FOR FUNDING CONSIDERATION IN THE DEPARTMENTAL ENHANCEMENT PROGRAM

FY 2021-22 COMPETITION

March 24, 2022

BOARD OF REGENTS SUPPORT FUND
DEPARTMENTAL ENHANCEMENT PROGRAM
FY 2021-22

BACKGROUND INFORMATION

One hundred eight (108) proposals requesting a total of $15,406,589 in first-year funds were submitted for funding consideration in fiscal year (FY) 2021-22 to the Departmental Enhancement Program of the Board of Regents Support Fund (BoRSF). Nine disciplines were eligible: Agricultural Sciences, Astronomy, Biological Sciences, Health & Medical Sciences, Humanities, Engineering B, Physics, Social Sciences, and Targeted Workforce.

As described in the 2021-22 Departmental Enhancement Request for Proposals (RFP), academic units at eligible institutions could submit two types of proposals: Comprehensive Enhancement proposals, which may request up to $1,000,000 over up to five years; and Targeted Enhancement proposals, which may request up to $200,000 for one year. Individual academic units could submit only one (1) Comprehensive Enhancement proposal, though there were no restrictions on the number of Targeted Enhancement proposals that could be submitted. An institutional screening committee consisting of, at minimum, an administrative representative from the academic unit, an institutional academic officer, and a representative from the campus's sponsored programs office, was required to approve the selection of Comprehensive Enhancement submissions for each academic unit, as well as approve and rank Targeted Enhancement submissions in order of priority to the submitting academic unit. Overall, seventeen (17) Comprehensive Enhancement proposals and ninety-one (91) Targeted Enhancement proposals were submitted. The 2021-22 RFP noted that only one to three Comprehensive Enhancement proposals could be selected for funding due to limited monies available and high long-term commitment of dollars required.

THE REVIEW PROCESS

The one hundred and eight (108) proposals submitted were reviewed by discipline-based panels. The chairs of each review panel represented their discipline on the final panel and submitted written reports with a priority ranking of highly recommended proposals to the final panel chair, Dr. Jeffrey Dean, Head of the Department of Biochemistry, Molecular Biology, Entomology & Plant Pathology at Mississippi State University.

After careful consideration of all panel reports during March 2022, the final panel chair highly recommended three (3) Comprehensive Enhancement proposals totaling $844,843 in first-year funds, and (18) Targeted Enhancement proposals for a total of $2,285,074 in first-year funds, based on monies projected to be available. Overall, twenty-one (21) Departmental Enhancement proposals are recommended for total support of $3,129,917 in first-year funds. For the three (3) Comprehensive Enhancement proposals highly recommended for funding, a total of $2,612,060

was recommended over five years. Ten additional proposals of lower ranking were recommended for funding if additional dollars become available.

Table I of this report contains the rank-order list of Comprehensive Enhancement proposals highly recommended for funding, while **Table II** contains the rank-order list of Targeted Enhancement proposals highly recommended for funding. **Table III** contains the rank-order list of Targeted Enhancement proposals recommended for funding if additional dollars become available. **Table IV** lists consultants participating in both the seven (7) discipline-based review panels and the final assessment of proposals. These are followed by written comments on each of the highly recommended proposals, which are presented in rank order for Comprehensive Enhancement proposals, followed by comments pertaining to the Targeted Enhancement proposals. Applicants who are not recommended for funding will receive debriefing information on their proposals during summer 2022.

Appendix A contains a list of all Departmental Enhancement proposals submitted; **Appendix B** contains the rating form used by all consultants to evaluate proposals.

Table I
FY 2021-22 Departmental Enhancement
Comprehensive Enhancement Proposals Highly Recommended for Funding

Rank	Proposal	Institution	Discipline	1st-Year Request	1st-Year Recommendation	Total Request	Total Recommendation
1	005ENH-22	SLU	Health & Medical	$299,960	$299,960	$748,514	$748,514
2	016ENH-22	ULL	Engineering B	$285,897	$258,897	$1,000,000	$863,681
3	002ENH-22	LSU-AG	Agricultural Sciences	$285,986	$285,986	$999,865	$999,865
				$871,843	$844,843	$2,748,379	$2,612,060

Table II
FY 2021-22 Departmental Enhancement
Targeted Enhancement Proposals Highly Recommended for Funding

Rank	Proposal #	Institution	Discipline	Request	Recommendation
1	095ENH-22	ULL	Engineering B	$94,476	$94,476
2	053ENH-22	McNeese	Engineering B	$76,050	$76,050
3	062ENH-22	NSU	Health & Medical	$116,200	$116,200
4	037ENH-22	LSU A&M	Physics	$176,392	$176,392
5	104ENH-22	UNO	Engineering B	$199,372	$199,372
6	057ENH-22	Nicholls	Biological Sciences	$108,181	$108,181
7	048ENH-22	LA Tech	Engineering B	$160,000	$160,000
8	034ENH-22	LSU A&M	Humanities	$103,900	$103,900
9	035ENH-22	LSU A&M	Agricultural Sciences	$190,611	$190,611
10	082ENH-22	Tulane	Humanities	$43,485	$43,485
11	068ENH-22	SLU	Health & Medical	$122,396	$122,396
12	084ENH-22	TUHSC	Health & Medical	$198,660	$196,114
13	065ENH-22	NSU	Physics	$19,488	$19,488
14	061ENH-22	Nicholls	Agricultural Sciences	$173,700	$173,700
15	106ENH-22	UNO	Biological Sciences	$172,981	$172,981
16	100ENH-22	ULM	Health & Medical	$60,800	$60,800
17	083ENH-22	Tulane	Physics	$199,881	$199,881
18	078ENH-22	SUNO	Social Sciences	$71,047	$71,047
				$2,287,620	$2,285,074

Table III
FY 2021-22 Departmental Enhancement
Targeted Enhancement Proposals Recommended for Funding if Additional Monies Become Available

Rank	Proposal #	Institution	Discipline	Request	Recommendation
19	028ENH-22	LSU A&M	Engineering B	$197,863	$197,863
20	019ENH-22	Centenary	Biological Sciences	$136,417	$136,417
21	096ENH-22	ULL	Health & Medical	$79,967	$79,967
22	063ENH-22	NSU	Engineering B	$85,768	$85,768
23	108ENH-22	Xavier	Social Sciences	$187,165	$187,165
24	099ENH-22	ULM	Health & Medical	$52,160	$52,160
25	042ENH-22	LSUS	Social Sciences	$116,255	$116,255
26	039ENH-22	LSUHSCS	Health & Medical	$192,952	$192,952
27	043ENH-22	LSUS	Humanities	$14,181	$14,181
28	049ENH-22	LA Tech	Physics	$65,999	$65,999
				$1,128,727	$1,128,727

Table IV
FY 2021-22 Departmental Enhancement Review Panelists

Name	Institution	Discipline
Final Panel Chair		
Jeffrey Dean	Mississippi State University	Conifer Functional Genomics
Ag Sciences		
Joseph Quansah, Chair	Tuskegee University	Agricultural Engineering
Tracy Dougher	Montana State University	Crop Management
Humanities		
Dawn Bratsch-Prince, Chair	Iowa State University	Foreign Languages
Samantha Cantrell	Vanderbilt University	English
Health & Medical		
Gerry Sonnenfeld, Chair	University of Rhode Island	Toxicology
Elizabeth Gazza	UNC Wilmington	Nursing
Bronwynne Evans	Arizona State University	Nursing
Doris Benbrook	University of Oklahoma Health & Medical Sciences Center	Obstetrics
Biological Sciences		
Eain Murphy, Chair	Upstate Medical University	Molecular
Christine O'Connor	Cleveland Clinic	Genomic Medicine
Social Sciences		
H. Ofahengaue Vakalahi, Chair	Hawaii Pacific University	Social Work
Laura Bronstein	Binghamton University	Social Work
Young-A Lee	Auburn University	Apparel Design
Maureen MacGillivray	Central Michigan University	Apparel Design
Aashish Kumar	Hofstra University	TV & Film Production
Douglas Ferguson	College of Charleston	Mass Communication
Engineering B		
Vinod Narayanan, Chair	University of California, Davis	Mechanical
Prahalada Rao	University of Nebraska-Lincoln	Industrial/Materials
Caroline Hayes	Iowa State University	Mechanical
Physics		
Solomon Bililign, Chair	North Carolina A&T State University	Theoretical Atomic
Pradip K. Bandyopadhyay	Penn State Berks	Experimental Physics

FY 2021-22 Departmental Enhancement
Comprehensive Enhancement Proposals Highly Recommended for Funding

Rank	1
Proposal #	005ENH-22 (Health & Medical Sciences)
Institution	Southeastern Louisiana University
Title	Hospital at Home Multidisciplinary Simulation Center
Requested	$748,514 (Y1: $299,960; Y2: $197,304; Y3: $47,000; Y4: $98,700; Y5: $105,550)
Recommended	$748,514 (Y1: $299,960; Y2: $197,304; Y3: $47,000; Y4: $98,700; Y5: $105,550)

- The proposed project is designed to establish a simulation center to train students and staff for transition of patients from hospital to home.
- The project cites two objectives (improve training and increase capacity of faculty) and eight strategies. All are clearly written and measurable. The goal is to enhance infrastructure in SLU's College of Nursing and Health Sciences (CNHS) to promote economic development. The proposal includes a very detailed and well-written work plan that identifies responsible parties, benchmarks, and due dates.
- The first year of the project will include purchasing and installing equipment in the simulation space. Activities in future years will utilize the equipment.
- A comprehensive impact statement is included in the proposal. Approximately 48 courses will use the simulation equipment. The impact reaches across Nursing and numerous Allied Health programs. Provided employment statistics support the need for qualified professionals in these fields.
- The mission of the CNHS is to promote individual, family, and community health across the lifespan through interprofessional teaching, scholarship, and services. The proposal aligns well with this mission and that of the University. It also aligns with four strategic priorities of the CNHS.
- A detailed evaluation plan is provided in the proposal, including benchmarks where appropriate. There are measures and evaluation actions for each objective and strategy. Grant funds will support project start-up. Consumable supplies will be replaced by each department using general operating funds. Faculty are expected to continue writing scenarios.
- There is no mention of IT support or identification of who will manage the equipment and simulation space. Nine investigators will participate in this project, including subject-matter experts from each discipline and professional program, and a simulation coordinator; the PI is the current Dean of the CNHS. Based on the provided credentials, the team is qualified to complete the proposed project.
- Funding is recommended for the full amount requested.

Rank	2
Proposal #	016ENH-22 (Engineering B)
Institution	University of Louisiana at Lafayette
Title	Comprehensive Enhancement to Integrate and Elevate Materials Research and Education at University of Louisiana at Lafayette
Requested	$1,000,000 (Y1: $285,897; Y2: $175,910; Y3: $192,028; Y4: $182,263; Y5: $163,902)
Recommended	$863,681 (Y1: $258,897; Y2: $148,910; Y3: $165,028; Y4: $154,944; Y5: $135,902)

- UL Lafayette seeks to significantly enhance the capabilities of the Institute for Materials Research and Innovation (IMRI). This is a multidisciplinary proposal with major users residing in eight departments across campus, including faculty from Chemical Engineering, Mathematics, Mechanical Engineering, Civil Engineering, Physics, and Biological Sciences. The proposal is very well written and clear.
- The project goal is to procure and commission eight pieces of multi-user research equipment over a span of five years, as well as train staff and students. The PI has systematically and in great depth described how each equipment piece will benefit ongoing projects and how it will be used to propel research and education at UL Lafayette to the next level.
- The rationale is clearly stated. Given the significant and impressive growth of their research activities, partnering faculty have had to go out of the state to obtain key materials characterization work, resulting in higher costs and longer lead times.
- The current state of resources has been summarized clearly.
- The work plan describes the contact point for each equipment piece, what project it will benefit, and how and by whom it will be used. These details are presented in an easy-to-comprehend tabular manner. The acquisition, installation, and training for the equipment will be staged over five years; details for procurement, installation location and projects impacted by each acquisition are well detailed.
- In addition to the faculty research listed in the proposal, examples of multiple collaborative research projects involving at least 13 other research groups are provided. The proposal states that 28 faculty and three post docs, as well as 29 PhD, 4 MS and 68 UG students will be impacted. The participating faculty have a combined total of $33 million in active research projects, including several NSF, Department of Energy, and NASA grants; therefore, this project will be leveraged very well. It should be noted that UL Lafayette was recently awarded a $6 million NSF Track II EPSCoR grant. The equipment requested herein will be very consequential for the identified research thrusts. Clearly, UL Lafayette is on track to become a leader in advanced manufacturing and materials science and these instruments are critical to reach that potential. The impact on education will be primarily through the integration of the instruments in courses in Chemical, Materials, and Mechanical Engineering. A detailed listing of courses and numbers of students are given.
- The evaluation plan encompasses the research, teaching, and service missions of the institution. Exploratory research activities using the instruments with oral presentations will be planned.

Publications that resulted from the instruments' availability will be tracked, as will usage by investigators and students.

- To promote sustainability, fees will be charged for use. There is a long-term service plan for each machine, with UL Lafayette funding a service contract after the warranty period. A technologist paid by IMRI will conduct daily maintenance.
- The team of investigators is very qualified.
- The budget is reasonable for the comprehensive suite of equipment and workstations requested.
- The panel felt that the support for graduate students should be removed from budget since the proposal is primarily an equipment request. The PIs should check the availability of service contracts and maintenance schedules for the equipment.
- The proposal presented a compelling case for need and impact. Reduced funding of $863,681 is recommended, with no funding included for graduate student support.

Rank	3
Proposal #	002ENH-22 (Agricultural Sciences)
Institution	LSU Agricultural Center
Title	Enabling the LSU AgCenter Louisiana Institute for Bioproducts and Bioprocessing [LIBBi] for Bioeconomy Development in Louisiana
Requested	$999,865 (Y1: $285,986; Y2: $186,152; Y3: $187,031; Y4: $194,222; Y5: $146,474)
Recommended	$999,865 (Y1: $285,986; Y2: $186,152; Y3: $187,031; Y4: $194,222; Y5: $146,474)

- The LSU AgCenter requests funds to develop a multi-purpose R&D facility for biomaterials/functional food products through its Louisiana Institute for Bioproducts and Bioprocessing (LIBBi) platform. The aim is to strengthen three major facilities: the Biomass Processing and Fractionation Facility, BioMaterial Characterization Facility, and Bio-based Products Development Facility.
- A compelling case was made that some of the current equipment is obsolete, and that the requested instrumentation will complement the existing capacity in advanced chemical imaging, MR/HPLC/XRF analysis, microwave extraction technology, packaging material analysis, and micro-scale printing for plant-based biomaterial R&D work among various academic units at LSU and the LSU AgCenter.
- The goals are clearly stated and fully related to the campus mission to enhance quality of life through research and educational programs and to develop agricultural enterprises.
- The related objectives for research, teaching, outreach, and extension activities are clearly stated, quantifiable, achievable, and correspond with the mission and goals of the LSU AgCenter.
- The detailed five-year work plan is well laid out, with the requested equipment being installed, staged, and tested throughout the proposed timeline to allow for careful development of courses, equipment short courses, and websites.
- The roles of the PI and the Co-PI are described in detail, with responsibilities and tasks clearly identified related to research, teaching, outreach, and workforce development.
- The LIBBi facility will be accessible to faculty and students across the broader higher education community, including researchers at Louisiana Tech, Southern University, industry, and the community. The proposal addresses and is coordinated with the Louisiana Economic Development Council's strategic plan.
- The proposal is well written and brings together several departments and well-qualified researchers to enhance research, academic delivery, and outreach activities at the LSU AgCenter.
- The projected impacts of the project on research, faculty development, curriculum development for new courses, workforce development, and recruitment are clearly explained.
- Impacts are planned to be felt not only across LSU, but also throughout the State of Louisiana and in allied industries.

- The 11 investigators are highly qualified in their fields and appear quite capable to implement the project.
- The budget is well constructed. Full funding is recommended.

FY 2021-22 Departmental Enhancement
Targeted Enhancement: Proposals Highly Recommended for Funding

Rank	1
Proposal #	095ENH-22 (Engineering B)
Institution	University of Louisiana at Lafayette
Title	Improving Engineering Education and the Pipeline of Engineering Majors Through a Preservice Teacher Bioinspired Engineering Maker Space and Curricular Enhancements
Requested	$94,476
Recommended	$94,476

- This proposal seeks to enhance outreach to historically marginalized youth by developing a bioinspired makerspace outfitted with iPads, LEGO robot kits, hand tools, and desks on which to assemble projects. It presents a novel take on the maker space in that it is based on bioinspired surfaces and will provide students with an entirely new perspective on additive manufacturing. This elegantly written proposal is well presented and organized.
- The work plan and timeline are clear and well articulated, with opportunities built into the plan to evaluate the success of the project.
- This program will have an immediate impact on recruitment of K-12 students into STEM higher education programs. It will provide undergraduates with outreach experiences and build confidence among education faculty. Research across multiple fields will also benefit from this equipment.
- Plans for project assessment are very strong, with two specific steps dedicated to evaluation. The PI's background in education and educational evaluation clearly shines in this work.
- The Making Inspired by Nature Lab will be sustained and expanded by revenue generated through current outreach programs. The Design, Robotics, and Innovation outreach programs, operating since 2007, annually reaches approximately 600 community children and generates about $15,000 (through a $25/child fee). These funds, as well as student tuition dollars, will be used to repair equipment, purchase additional supplies, and further expand this project by acquiring additional equipment. It is not clear how the training of new students and faculty to work in the lab will be supported.
- The PI has assembled a strong cross-disciplinary team including faculty from the College of Education. The team members have the appropriate expertise to make the project successful.
- The budget is reasonable, detailed, and well considered.
- The proposal is very well conceived and written, with fresh ideas and perspectives. Full funding is recommended.

Rank	2
Proposal #	053ENH-22 (Engineering B)
Institution	McNeese State University
Title	Enhancement of Education in Engineering Measurements
Requested	$76,050
Recommended	$76,050

- This application seeks to enhance infrastructure in the Strength of Materials and Engineering Measurements Laboratories at McNeese State University. The objective is to procure additional equipment so that the faculty are not overloaded by offering multiple lab sessions due to limited equipment. The request includes basic hand-held measurement tools, scopes, waveform generators, and computer-based data acquisition units and sensors. These items are essential for providing hands-on learning in this discipline.
- The impact is very clear, in that these acquisitions will help faculty to better manage hands-on learning and allow students a more comfortable experience. There is no doubt that students at McNeese will benefit tremendously from this equipment.
- The work plan is straightforward. The equipment will be purchased, installed, and configured for the labs.
- Mechanical Engineering undergraduate students (total current enrollment of 205) will be directly impacted. This equipment will be the lifeblood of two fundamental courses in engineering: Strength of Materials and Engineering Measurements.
- The impact from the education perspective is undeniably significant, and a very compelling case has been made by the PI. Currently, 40 juniors take the lab courses each year, and the Department has only three ME faculty. Multiple lab sessions have resulted in faculty overload. Furthermore, enrollment has increased over the past several years, exacerbating the need for more experimental stations in the labs. Other courses also could benefit from these purchases.
- A list of quantifiable evaluation metrics has been provided, including tracking of student course assessments, ABET accreditation impact, and Fundamentals of Engineering test scores. The plan to gather input from the Industry Advisory Board is a positive inclusion.
- Student fees will provide support for maintenance, and technicians are included in the sustainability plan.
- This effort is led by a PI with vast teaching experience in lab courses using the proposed equipment. The PI has been involved in maintaining the equipment, having rescued several pieces from recent hurricane damage, and is very capable of implementing the work plan. The PI's commitments to the institution and to furthering student learning are abundantly evident in this proposal.
- A well-reasoned budget is presented, with a full list of equipment to be purchased included in the proposal.
- The campus sustained severe damage in two recent hurricanes. This project will help to maintain and grow quality undergraduate engineering education at McNeese.
- Full funding is recommended.

Rank	3
Proposal #	062ENH-22 (Health & Medical Sciences)
Institution	Northwestern State University
Title	Digital Radiography Imaging System to Enhance Simulation Training for Radiologic Science at Northwestern State University
Requested	$116,200
Recommended	$116,200

- Northwestern State University (NSU) seeks to add a digital radiography imaging system to the radiology lab in Shreveport to adequately prepare radiographers for the health workforce. Hospitals are increasingly choosing digital imaging over conventional x-ray-based imaging because of enhanced detection capability, reduced radiation exposure, and cost savings. Reimbursement systems are offering incentives for transition to digital radiation technologies. Industry partners and clinical facilities will be surveyed to identify current digital radiography imaging protocols utilized to identify gaps in current curricula. These gaps will be addressed by purchasing a digital imaging system and interprofessional training modules to be used for all NSU professional students in health fields.
- A detailed plan for each goal is clearly defined, along with timelines, benchmarks, and persons responsible. The new training is anticipated to be available to all 3,140 students in the College of Nursing and School of Allied Health at NSU. Currently NSU has only one digital radiation system, which minimizes the capacity for training. The survey, equipment, and implementation of the new training is imperative for NSU to continue to align its educational practices with workforce needs and technology developments in the field.
- The evaluation plan is provided in detail and includes appropriate elements, including input from the community partners, assessments, and long-term objectives. Specific values for determining success are not defined, which weakens the plan.
- No plans for the day-to-day maintenance or security of the equipment are provided. Continued maintenance after the grant ends is mentioned, but no verification of the support to be provided was included in the letters of support or budget.
- The faculty participants are experienced educators in radiological sciences.
- The BoRSF budget includes only equipment, though considerable faculty effort will be involved in this project. Full funding is recommended.

Rank	4
Proposal #	037ENH-22 (Physics)
Institution	Louisiana State University and A & M College
Title	In Situ Size and Shape Characterization with a Multifunctional Sample Environment for Small-Angle X-Ray Scattering at CAMD
Requested	$176,392
Recommended	$176,392

- This proposal from the Center for Advanced Microstructures and Devices (CAMD) at LSU A&M seeks to expand the current SAXS beam capabilities to include biological tissues and soft matter specimens. This is an excellent proposal. The goals are clearly stated and perfectly aligned with the CAMD mission and LSU 2025 Strategic Plan. The research objectives are aligned with the goals.
- The proposed expansion will provide research capacity unavailable anywhere else on the campus or in the region.
- The proposal stems from a multi-department initiative to enhance synchrotron-based research across the University and the State.
- The timeline is well planned and in line with the duration of the grant. The expanded MSE-SEC beamline is expected to be operational by August 2023.
- This acquisition will make LSU and CAMD highly capable of competing with other synchrotron radiation research facilities in the U.S. and abroad.
- The multidisciplinary dimension of the research should appeal to a broad spectrum of graduate students in Physics and Biological and Health Sciences. The impact on student recruitment and retention clearly shows excellent alignment with CAMD's mission.
- Proposed research spans multiple areas, so the impact of the project will be broad. Multiple faculties across the Physics, Chemistry, Biological Sciences, and Engineering programs, as well as the graduate students in these programs, will have access to these new research capabilities. The project will allow LSU to expand research in soft and biological matte physics, which is a frontier of modern research.
- The project's impact on education is significant, allowing for the introduction of new courses. Workforce development opportunities are clear as the project allows training in cutting-edge research areas. Economic benefits will come from products generated using this new technology.
- Full funding is recommended.

Rank	5
Proposal #	104ENH-22 (Engineering B)
Institution	University of New Orleans
Title	Subtractive Rapid Prototyping of 3D Free-Form Shapes and Molds
Requested	$199,372
Recommended	$199,372

- The School of Naval Architecture and Marine Engineering (NAME) at UNO seeks to improve students' academic performance and overall knowledge base by incorporating enhanced laboratory technologies into the classroom. Project goals are clearly stated and within reach.
- Funds are sought for the acquisition of a 5-axis milling machine for subtractive rapid prototyping (SRP). The Towing and Wave Tank is a major focal point of NAME and of the University as a whole. The model shop is an integrated part of the towing tank operation. This project will impact the heart of NAME's mission: ship design, model making, and testing. The aim is to enhance instruction, expand involvement of students in research, and increase collaboration with other academic units.
- A detailed set of objectives and a work plan with timeline were provided. It would have been helpful for the proposal to include contingency plans if the vendor is not timely in manufacturing and shipping the machine.
- The project's contribution to mold making for both educational and research utility will have a significant impact on NAME. The project is primarily educational in focus, but will also increase faculty competitiveness for external funding in manufacturing research. The project will significantly modernize current equipment with a carefully selected set of tools (3D printer, mini mill, Automation Studio software, specimen preparation bench, and microscope). The hands-on nature of the curriculum will be enhanced by reducing the time and skill required to make a ship model, while greatly increasing the accuracy.
- Current equipment is primarily older manual machines, and new equipment will make it possible to create and test a scale model during a capstone course. This will enable faculty and students to make much more effective use of their existing showcase wave tank as well as positively affect students' experiences and research opportunities. Recruitment and retention of students, faculty and staff will also likely increase as a result of the project.
- Evaluation metrics include meeting milestones for installing equipment, student performance before and after acquisition, feedback from students on the classroom experience, student course performance, numbers of employment offers, numbers of capstone projects, and feedback from companies. While most evaluation criteria are measurable, how will student feedback on the quality of their experience be quantified? It is not clear if funded research and publications are intended metrics of evaluation, or anticipated as longer-term impacts.
- The project is sustainable. The PIs have specified that operating costs for the model shop, which will house the mill, are included in the NAME budget. Model creation associated with funded research will be covered by project budgets. Laboratory fees and donations will finance student projects.

- The proposal does not specify how site preparation or maintenance and repair of the machine will be funded. While the PIs state that no additional staff will be needed, additional tech staff may be useful.
- The team includes experts in marine engineering and materials processing. The PIs are well qualified to complete this project.
- The budget is clear and straightforward. This project is very cost effective and will have a substantial impact on students in this program.

Rank	6
Proposal #	057ENH-22 (Biological Sciences)
Institution	Nicholls State University
Title	Enhancement of First-Year General Biology Laboratory Experience for Science Majors
Requested	$108,181
Recommended	$108,181

- The goals of this well-written application are to secure funds to upgrade equipment, including microscopes and instructional materials such as slides and anatomical models, for use in pre-existing entry-level instructional laboratories as part of the first-year Biology curriculum at Nicholls State University. The existing equipment and materials for this class are old and in a state of disrepair. Specimen models and slides are beyond their lifespan and in a condition that renders them insufficient for instruction. The acquisition of new equipment will impact approximately 200 students per year across 13 courses and the project is well aligned with the mission statement provided by the applicants.
- A highly detailed and logical work plan clearly outlines activities to be accomplished, along with task assignments and a reasonable timeline.
- The impact of the project is obvious and return on investment will be immediate upon acquisition of the requested items, as the equipment will be integrated into courses already in place.
- A viable sustainability plan is presented and limited long-term resources are required, as the requested items are highly durable and need little to no maintenance.
- The investigators are well suited to oversee the successful completion of the project and, to the PI's credit, a significant amount of effort was dedicated to finding the best equipment options.
- Discounts were secured on the equipment items and there is a strong institutional match (20%).
- The project is recommended for full funding.

Rank	7
Proposal #	048ENH-22 (Engineering B)
Institution	Louisiana Tech University
Title	Enhancing Materials Science Research, Education, and Training with Atomic Force Microscopy
Requested	$160,000
Recommended	$160,000

- The proposal requests funds for an atomic force microscope (AFM), which is critical to evaluating surfaces in materials science research. The motorized AFM will be housed in Louisiana Tech's Institute of Micromanufacturing (IfM). The high-frequency drive with low-noise controller will enable study of dynamic surface phenomena in liquid and gas environments. The proposal clearly states the need for and impact of the apparatus, and the PIs have obtained matching funds from their institution. The IfM currently has an obsolete Agilent AFM, and clear justification is provided for acquisition of a new machine.
- The proposal is a joint effort by five well-qualified and accomplished faculty who make a compelling case for the need for the equipment to support research in a few specific areas, as well as in education. The AFM complements existing equipment in the metrology lab and will be a key component of the MSNT program. A clear workplan was provided, involving ordering, site preparation, installation, training, and engaging tool use in existing work. The capabilities of the equipment will be advertised widely for future projects. The work is reasonable and can be completed in one year.
- The PIs have described impact very well in a tabular manner. A convincing case for use of the equipment in education and research has been provided. The acquisition will benefit current NSF EPSCoR and IUCRC work. IfM is home to 20 interdisciplinary faculty and five staff with total of $13.2M in research expenditures and 325 peer-reviewed publications in the past five years. Examples of research projects that will benefit from the project include quantum materials, coatings, catalysis, medical diagnostics, cell biology, and manufacturing research. A total of 14 projects involving 30 PhD, 12 MS, and 22 UG students will be directly impacted. Indirect impact is anticipated across a broader swath of students. Strong support letters have been provided from neighboring institutions and industry, highlighting the significant regional impact of the acquisition.
- Some rudimentary evaluation metrics are provided for the project period including assurance of proper function of the AFM in the first six months and its successful engagement in current projects over the remainder of the project period. Success measures after the project period include tracking publications and grants.
- There is a fee structure for the equipment, as well as institutional support to keep the equipment in good order, using the operating budget funded by indirect cost recoveries.
- The team is extremely qualified, including an NSF CAREER award winner, with support from the facility director. There has already been significant support of faculty from previous BoRSF grants.
- The budget is reasonable and includes cost share from the institution. Full funding is recommended.

Rank	8
Proposal #	034ENH-22 (Humanities)
Institution	Louisiana State University and A & M College
Title	Embedding Ethics in STEM @ LSU
Requested	$103,900
Recommended	$103,900

- The LSU Ethics Institute seeks to create a series of learning modules in ethics and embed these into the STEM curriculum, where there is currently a major void. The PI's approach of creating discrete, stand-alone curricular modules for insertion into STEM courses is highly innovative, while the need to infuse ethics into STEM learning is timely and critical. This project is preparing not just competent STEM graduates, but ethical ones. The practical results of this project will benefit both LSU's students and the workforce.
- The proposal identifies a very timely concern about the moral and ethical implications of scientific/technological enterprises, particularly in the areas of artificial intelligence and big data.
- Project goals are reasonable, achievable, and directly related to the departmental and University missions.
- The work plan is detailed, and personnel are aligned with tasks.
- The PI makes a compelling argument that the grant will serve as seed funding for proof-of-concept work. The LSU Ethics Institute has identified other sources of funding for scaling up the project should this proof of concept yield promising results.
- Project impact has the potential to be far reaching. The integration of humanistic and STEM disciplines through the lens of ethics may open opportunities for new research and teaching collaborations among faculty. Students will benefit from being exposed to current research and ethical approaches that are directly relevant to their future STEM careers.
- The work has the potential to elevate the reputation of both the Ethics Institute and the University as a whole and could affect competitiveness for funding in both humanities and STEM disciplines, as well as impact recruitment, retention, and workforce competitiveness.
- The evaluation plan is well designed to collect specific, measurable results.
- The PI has impressive credentials and has identified a strong supporting team.
- This is an ambitious project that has multiple phases. The project phases described in this proposal run through the Summer of 2023, which is beyond the grant period. The PI must revise the project costs to align with the grant timeline. Full funding is recommended.

Rank	9
Proposal #	035ENH-22 (Agricultural Sciences)
Institution	Louisiana State University and A & M College
Title	Acquisition of a Laser Induced Breakdown Spectroscopy Instrument for Fundamental and Applied Research in the Agricultural Sciences
Requested	$190,611
Recommended	$190,611

- LSU seeks to develop a unique mass spectrometry facility for the education and development of Louisiana's agricultural workforce. The goals, objectives, and plans for implementation are clearly stated and are in line with the institutional mission of enhancing capabilities to transform research and training opportunities at LSU and the LSU AgCenter.
- The proposal is well written and clearly argues for the need to purchase a J200 Tandem with standalone, microscale detection to introduce capabilities that are currently not available.
- The laser ablation system to be purchased will be integrated into existing instruments to enhance mass spectrometry research capacity.
- The investigators clearly describe the impact of state-of-the-art equipment on research, teaching, graduate and undergraduate student training, publication outputs from the investment and how enhanced facilities will impact LSU's competitiveness, recruitment efforts, grant funding, and educational quality.
- The new system can be retrofitted to existing equipment, optimizing its use.
- The application is multidisciplinary and the new equipment will benefit several departments across LSU and the LSU AgCenter.
- The budget is well justified. Full funding is recommended.

Rank	10
Proposal #	082ENH-22 (Humanities)
Institution	Tulane University
Title	Struggle for Freedom: The Surprising Story of Furcy Madeleine
Requested	$43,485
Recommended	$43,485

- This project will increase awareness of the role of Francophone and Africana history and cultures within New Orleans and across Louisiana by hosting a year-long museum exhibit and activities related to the life of Furcy Madeleine, a 19th-century enslaved man with connections to the region. The exhibit originated in Paris and the digital content is being shared with Tulane at no charge.
- The project is well aligned with the stated missions of Tulane University and the participating departments. It bridges many disciplines and specific instructors have committed to incorporate the exhibit's subject matter into their curricula during calendar year 2023. The outreach component of this traveling exhibit is also compelling, since the proposed lectures and activities not only benefit the University's students, but will also draw members of the surrounding communities. In keeping with its traveling nature, after its time at Tulane the exhibit will be sent to another institution for use in a similar project. This collaboration in the development of the exhibit and recycling of its materials extends its impact beyond the life of the Enhancement grant.
- Expenditures that fall outside of the project period, which include costs that are incurred earlier than June 1, 2022, cannot be funded. If the project is funded as recommended, the PIs must reduce the budget to include only those costs incurred during the grant period.
- Full funding is recommended.

Rank	11
Proposal #	068ENH-22 (Health & Medical Sciences)
Institution	Southeastern Louisiana University
Title	Enhancing Student Experiences through the Use of Human Movement Analyses in the KHS Biomechanics and Motor Behavior Laboratory
Requested	$122,396
Recommended	$122,396

- The Department of Kinesiology & Health Studies (KHS) at Southeastern Louisiana University seeks funds to acquire state-of-the-art equipment to enhance education through the quantitative use of three-dimensional human movement analysis. The goals of the proposed project are clearly stated, reasonable, achievable, and very closely related to the departmental mission. The objectives are measurable and linked clearly to the goals.
- The project timeline and roles of the team members are well delineated. The tasks for each activity are defined with specificity. The proposed project will greatly improve KHS facilities and curricula. It is likely that recruitment of students and faculty will also be positively affected.
- The specific evaluation metrics are drawn primarily from surveys, and there is minimal evaluation beyond these.
- A sustainability plan is discussed that includes use of student technology fees.
- The team is comprised of the project director and several additional participants. They are all experienced in the movement area of kinesiology and should be able to successfully implement the proposed project. The PIs have limited experience with extramural funding at the national level.
- The budget is reasonable and designed to maximize the impact of the proposed project. The budget justification clearly demonstrates the relationship of each request to the project's impact, goals, and work plan. A sizable match is provided by the institution. Full funding is recommended.

Rank	12
Proposal #	084ENH-22 (Health & Medical Sciences)
Institution	Tulane University Health Sciences Center
Title	Performance Enhancement through Simulation Training for Residents
Requested	$198,660
Recommended	$196,114

- The proposed project seeks to acquire simulation equipment and other items to enhance readiness training at the successful and effective Tulane Center for Advanced Medical Simulation. The goals are clearly stated, reasonable, achievable, and closely related to the missions of the academic units involved. Project objectives are measurable and clearly linked to the goals.
- A specific timeline is provided and roles of the team members well defined. The work plan specifies the tasks necessary for completion of the project goals and objectives.
- The anticipated project impacts on facilities and curriculum will affect recruitment of residents as well as their workforce competitiveness.
- The complex evaluation plan is criteria-based and should appropriately evaluate the impacts of project activities.
- The project will be integrated into the unit residency program and should be sustainable in that posture.
- The PI, co-PIs and other team members are experienced in the areas of study and are well qualified to implement the work plan.
- The budget for the proposed project is reasonable and should maximize the impact. The budget justification explains the relationship of each request to the goals and work plan. A small cost share is provided. The budget includes a request for iPads, and funding for items of this nature should, in the panel's view, come from other sources. Reduced funding of of $196,114 is recommended, with the iPads eliminated.

Rank	13
Proposal #	065ENH-22 (Physics)
Institution	Northwestern State University
Title	Equipping Honors Physics Laboratory with Essential Tools
Requested	$19,488
Recommended	$19,488

- This application seeks to acquire laboratory equipment for new Physics courses in the Louisiana Scholars College (LSC) at Northwestern State University (NSU). It is a well-written proposal with the goal to enhance student learning in Physics through a much-needed technology update, including digitized data acquisition software, an interface, graphics, and an analysis package.
- The goals are aligned with the LSC and NSU mission statements. The objectives are directly measurable as described and closely linked with the goals, which are achievable.
- The work plan is clearly laid out and articulated, though the timeline should be better developed. The six projects listed are explained in detail.
- The School of Science and Engineering is committed to providing maintenance, which should make the project sustainable.
- The acquisitions will allow for curricular revision and upgrades. LSC has a commendable record of student placement in medical and graduate schools, and its success will be strengthened through this project.
- The proposal will have significant impacts on student training, research, and advances in technology. The enhancements to education, available resources, research capacity, workforce development, faculty development are well explained, reasonable, and realistic.
- Conducting evaluation using survey instruments as well as student performance in honors Physics courses seems appropriate for course assessment and impact, though tracking of student performance in Physics and science courses beyond the introductory level is also needed. Feedback from employers could be used effectively to measure the success of graduates joining the STEM workforce in various capacities.
- The requested budget is reasonable.
- Full funding is recommended.

Rank	14
Proposal #	061ENH-22 (Agricultural Sciences)
Institution	Nicholls State University
Title	Using a Liquid Chromatograph Mass Spectrometer [LCMS] to Enhance Learning in the Agricultural, Chemical and Biological Sciences
Requested	$173,700
Recommended	$173,700

- Several departments at Nicholls State University seek to acquire a liquid chromatograph mass spectrometer (LCMS) to enhance education for science majors. The improved capabilities provided by this equipment will have a significant impact on faculty research across a variety of disciplines including agricultural sciences, biochemistry, biology, chemistry, and environmental sciences.
- The goals as stated relate to Nicholls' mission and the objectives are clearly stated and measurable. The goals do not convey the key activity of the grant, which is the purchase of an LCMS.
- The PIs are experts on the instrumentation requested for the project as well as outstanding educators and researchers in areas related to the agricultural sciences. The proposal would have been stronger if a more diverse project team was involved.
- The budget is well justified. Full funding is recommended.

Rank	15
Proposal #	106ENH-22 (Biological Sciences)
Institution	University of New Orleans
Title	Multidisciplinary Research and Education in Cellular and Mitochondrial Energetics
Requested	$172,981
Recommended	$172,981

- This well-written and highly structured application from UNO seeks to acquire a specific research item that allows for the monitoring of bioenergetic measurements in tissues in real time. This expanded capacity will impact both the offered curricula (including the integration of a new course being offered based on this technology) and the research programs of the project team.
- This application is a resubmission of a previous proposal that was favorably received but for which funds were not available. The PIs have significantly modified their application to address the concerns of the previous reviewers. Changes include broadening the project to include advanced classes utilizing the equipment and recruiting additional faculty members as well as a local biotechnology firm to expand the educational and research impacts of the requested items.
- There is an excellent work plan provided that contains a reasonable timeline with measurable tasks aligned against the project's goals.
- The impact of this acquisition is obvious. The requested items are not currently available at UNO, increasing the value of the predicted outcomes.
- The project team members are well trained and have strong histories of managing successful research programs.
- Full funding is recommended.

Rank	16
Proposal #	100ENH-22 (Health & Medical Sciences)
Institution	University of Louisiana at Monroe
Title	The Anatomage Clinical Table: Bringing Pathophysiology and Clinical Care to Life
Requested	$60,800
Recommended	$60,800

- The proposed project seeks to acquire three-dimensional models to enhance human anatomy and pathophysiology education for nursing students.
- The goals of the proposed project and clearly stated, reasonable, achievable, and closely related to the mission of the School of Nursing. The objectives are measurable and aligned well with the goals.
- A detailed timeline is established for all activities and defines the roles to be played by the team members. The work plan tasks are well designed for achieving the project's goals and objectives.
- Impacts will be substantial on facilities, curricula, and recruitment of students and faculty.
- A plan for evaluation will track the number of students and faculty using the new equipment. There is a commitment from the institution to sustain the project.
- The team includes well-trained and experienced nurse instructors in anatomy and other areas.
- The budget for the proposed project is designed to maximize its impact. The relationship of each budget item to the goals, work plan and outcomes is clearly defined. A generous match is provided.
- Full funding is recommended.

Rank	17
Proposal #	083ENH-22 (Physics)
Institution	Tulane University
Title	A Fabrication and Characterization System of Quantum Materials to Enhance Materials Science and Engineering Research and Education at Tulane
Requested	$199,881
Recommended	$199,881

- The proposal goal – to broaden the scope of materials science research at Tulane – is reasonable, strategic, achievable, and aligned with the mission of the Department of Physics and Engineering Physics.
- The objectives are measurable and clearly related to the goals. A timeline is not provided as an independent section.
- The project has excellent potential to significantly enhance advanced research in quantum materials at Tulane. The impact statements are well developed and directly related to the unit's mission.
- The proposed expansion of the materials research facility to include quantum materials should make the department and the University more competitive at regional and national levels.
- The proposal will significantly enhance student training, research, and technological advancement. Impacts on education, enhancing existing resources, research capacity, workforce development, faculty development are well explained, reasonable and realistic.
- The project, with support from the School of Science and Engineering for maintenance, is sustainable. Tulane's 25% cost sharing of capital equipment for faculty research is mentioned, but the budget page does not reflect this commitment. This commitment should be clarified during contract negotiations.
- Full funding is recommended.

Rank	18
Proposal #	078ENH-22 (Social Sciences)
Institution	Southern University at New Orleans
Title	Enhancing Departmental Infrastructure for Online Capability Capacity Expertise and Broadened Participation
Requested	$71,047
Recommended	$71,047

- The project team seeks to acquire a high-capacity server and Wi-Fi upgrades at Southern University at New Orleans' (SUNO's) School of Social Work to improve online education and classroom capabilities.
- The goals are clear, reasonable, achievable, and aligned with the institutional mission. The project objectives are measurable. The need for online Social Work education is clearly established. The project will enhance SUNO's ability to contribute to a diverse workforce dedicated to underserved communities.
- The timeline is reasonable and responsibilities for project personnel are clearly delineated. The tasks are linked to the goals and objectives.
- The project will increase access to education for non-traditional students as well as contribute to the State's economy and workforce. It will build faculty capability and capacity in online e-learning/teaching, research, and grant writing, provide online and technology infrastructure for classrooms, and enhance the School's ability to improve enrollment, retention, and completion.
- The evaluation plan, including both formative and summative approaches, is clear and reasonable.
- The project is sustainable, as the School has pledged maintainance of the equipment as a permanent item in its budget.
- The PIs are excellent educators and scholars, and well qualified to implement the project.
- The panel recommends that the School invest in grant writing training to build its investment in online education and sustain the impact of this project.
- Full funding is recommended.

APPENDIX A

Proposals Submitted to the Departmental Enhancement Program - Comprehensive
for the FY 2021-22 Review Cycle

Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Duration	Amount Requested					
						Year 1	Year 2	Year 3	Year 4	Year 5	Total
001ENH-22	Dr. Emmanuel Johnson	Louisiana Christian University	Human Behavior Research and Training Center	Social Sciences	3 Year(s)	$308,482	$167,500	$157,500	$0	$0	$633,482
002ENH-22	Prof. Qinglin Wu	Louisiana State University Agricultural Center	Enabling the LSU AgCenter Louisiana Institute for Bioproducts and Bioprocessing [LIBBi] for Bioeconomy Development in Louisiana	Agricultural Sciences	5 Year(s)	$285,986	$186,152	$187,031	$194,222	$146,474	$999,865
003ENH-22	Dr. Dandina Rao	Louisiana State University and A & M College	Enhancement of Shale Oil Research Capabilities in LSU Petroleum Engineering Department	Engineering B (Industrial, Materials, Mechanical)	3 Year(s)	$299,500	$199,168	$199,650	$0	$0	$698,318
004ENH-22	Dr. Kevin Yaudes	McNeese State University	Interdisciplinary Enhancement in Behavioral Health Education: Advanced Technology in Counseling and Applied Behavioral Analysis	Health and Medical Sciences	3 Year(s)	$218,781	$158,372	$79,548	$0	$0	$456,701
005ENH-22	Dr. Ann Carruth	Southeastern Louisiana University	Hospital at Home Multidisciplinary Simulation Center	Health and Medical Sciences	5 Year(s)	$299,960	$197,304	$47,000	$98,700	$105,550	$748,514
006ENH-22	Dr. Brent Fortenberry	Tulane University	Tulane Heritage Risk Lab	Social Sciences	3 Year(s)	$485,600	$257,007	$100,000	$0	$0	$842,607
007ENH-22	Prof. Stryder Meadows	Tulane University	Tulane Transgenic Core Facility: fundamental enhancement and expansion	Biological Sciences	3 Year(s)	$298,603	$199,646	$193,128	$0	$0	$691,377
008ENH-22	Dr. Muralidharan Anbalagan	Tulane University Health Sciences Center	Acquisition of state-of-the-art in vivo multispecies imaging systems to maintain and enhance preclinical research and education at Tulane University School of Medicine	Health and Medical Sciences	5 Year(s)	$300,000	$200,000	$200,000	$141,930	$75,547	$917,477
009ENH-22	Prof. Ronald Blanton	Tulane University Health Sciences Center	Post-doctoral and Infectious Disease Fellows in Next-Generation Infectious Disease Research	Health and Medical Sciences	5 Year(s)	$183,941	$173,931	$173,931	$173,931	$173,931	$879,665

Proposals Submitted to the Departmental Enhancement Program - Comprehensive
for the FY 2021-22 Review Cycle

Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Duration	Amount Requested					
						Year 1	Year 2	Year 3	Year 4	Year 5	Total
010ENH-22	Dr. Tony Hu	Tulane University Health Sciences Center	Acquisition of next-generation Orbitrap Eclipse Tribrid mass spectrometer system for research and education in biomedical research	Biological Sciences	5 Year(s)	$266,255	$200,000	$200,000	$200,000	$133,745	$1,000,000
011ENH-22	Prof. Jia Zhuo	Tulane University Health Sciences Center	Enhancement of Departmental Infrastructure through Translational Synergistic Interactions with the Tulane Hypertension and Renal Center of Excellence	Health and Medical Sciences	5 Year(s)	$277,902	$194,645	$162,076	$165,832	$122,000	$922,455
012ENH-22	Dr. Alan Barhorst	University of Louisiana at Lafayette	Louisiana Center for Research and Education in Advanced Manufacturing	Engineering B (Industrial, Materials, Mechanical)	5 Year(s)	$300,000	$200,000	$200,000	$200,000	$100,000	$1,000,000
013ENH-22	Dr. Michael Gervais	University of Louisiana at Lafayette	High-Definition [HD] Camera and Equipment Upgrade for Student-run Television Studio	Humanities	2 Year(s)	$299,004	$181,409	$0	$0	$0	$480,413
014ENH-22	Dr. Deedra Harrington	University of Louisiana at Lafayette	BeWell Louisiana: Technology Enhancement of Learning	Health and Medical Sciences	3 Year(s)	$292,500	$175,000	$175,000	$0	$0	$642,500
015ENH-22	Dr. David Khey	University of Louisiana at Lafayette	Comprehensive Enhancement of Applied Research for the Public Good of Louisiana	Social Sciences	5 Year(s)	$127,848	$182,637	$199,721	$181,925	$21,120	$713,251
016ENH-22	Prof. Xiao-Dong Zhou	University of Louisiana at Lafayette	Comprehensive Enhancement to Integrate and Elevate Materials Research and Education at University of Louisiana at Lafayette	Engineering B (Industrial, Materials, Mechanical)	5 Year(s)	$285,897	$175,910	$192,028	$182,263	$163,902	$1,000,000
017ENH-22	Dr. Paul Schilling	University of New Orleans	3D Studio: Interdisciplinary Design Education at UNO	Engineering B (Industrial, Materials, Mechanical)	4 Year(s)	$297,060	$196,204	$194,117	$198,121	$0	$885,502

Total Number of Proposals submitted	17
Total Funds Requested for First Year	$4,827,319
Total Funds Requested for Second Year	$3,244,885
Total Funds Requested for Third Year	$2,660,730
Total Funds Requested for Fourth Year	$1,736,924
Total Funds Requested for Fifth Year	$1,042,269
Total Funds Requested	$13,512,127

Proposals Submitted to the Departmental Enhancement Program - Targeted
for the FY 2021-22 Review Cycle

Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Amount Requested
018ENH-22	Dr. Amy Friesenhahn	Centenary College	Revitalizing Centenary's Pre-Law Program: Preparing for the LSAT	Social Sciences	$3,673
019ENH-22	Dr. Anna Leal	Centenary College	Enhancement of Lab Equipment to Promote Diversity and Inclusion in Biology and Health Sciences	Biological Sciences	$136,417
020ENH-22	Dr. Ruby Broadway	Dillard University	Enhancement of STEM Curriculum via a Duplicating Producting Center	Biological Sciences	$80,520
021ENH-22	Mr. Mark Arceneaux	Fletcher Technical Community College	Agriculture Technology Innovation through Workforce Training	Non-Disciplinary-Based Workforce	$132,991
022ENH-22	Prof. Haeyeon Yang	Grambling State University	Acquisition of atomic force microscope and scanning confocal microscope for research and education in nanomaterials	Physics	$148,405
023ENH-22	Dr. Elizabeth Christian	Louisiana Christian University	Enhancing Convergence Media Education through the Development of Podcasting Studio and Technology	Social Sciences	$0
024ENH-22	Prof. Wade Warren	Louisiana Christian University	The Anatomage Lab	Biological Sciences	$169,056
025ENH-22	Dr. Ted Gauthier	Louisiana State University Agricultural Center	Acquisition of Analytical and Preparatory HPLC Instrumentation for the Analysis and Purification of Peptides and Other Biomolecules	Agricultural Sciences	$159,716
026ENH-22	Dr. Kun-Jun Han	Louisiana State University Agricultural Center	Developing a NIRS analysis program with tailored calibration models to provide efficient, non-destructive, and accurate analysis of Louisiana agriculture samples	Agricultural Sciences	$123,264
027ENH-22	Dr. Jonathan Richards	Louisiana State University Agricultural Center	Acquisition of plant growth and dew chambers for improved plant pathology research and teaching	Agricultural Sciences	$200,000
028ENH-22	Dr. Corina Barbalata	Louisiana State University and A & M College	The Marine Robotics & Ocean Energy Research facility: Enhancement of Louisiana's marine infrastructure to enable high-impact coastal research and education	Engineering B (Industrial, Materials, Mechanical)	$197,863
029ENH-22	Prof. Jin-Woo Choi	Louisiana State University and A & M College	Materials Printer for Sensors, Biomaterials, and Healthcare Research	Engineering B (Industrial, Materials, Mechanical)	$120,000
030ENH-22	Dr. Joyoni Dey	Louisiana State University and A & M College	Multi-purpose Phase Contrast X-ray Interferometry System	Physics	$200,000
031ENH-22	Prof. Huangen Ding	Louisiana State University and A & M College	A new multi-flow liquid chromatography system for state-of-the-art LC-MS/MS proteomics research	Biological Sciences	$84,547
032ENH-22	Prof. James Dorman	Louisiana State University and A & M College	Upgrade of UV-Vis-NIR tool for in situ characterization	Engineering B (Industrial, Materials, Mechanical)	$64,264
033ENH-22	Dr. Manas Ranjan Gartia	Louisiana State University and A & M College	Enhancing the Functional and Photonic Materials Research and Education at Louisiana State University using Modular Microspectroscopy System	Engineering B (Industrial, Materials, Mechanical)	$200,000
034ENH-22	Dr. Deborah Goldgaber	Louisiana State University and A & M College	Embedding Ethics in STEM @ LSU	Humanities	$103,900
035ENH-22	Dr. Achim Herrmann	Louisiana State University and A & M College	Acquisition Of A Laser Induced Breakdown Spectroscopy Instrument For Fundamental And Applied Research In The Agricultural Sciences	Agricultural Sciences	$190,611

Proposals Submitted to the Departmental Enhancement Program - Targeted
for the FY 2021-22 Review Cycle

Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Amount Requested
036ENH-22	Dr. Achim Herrmann	Louisiana State University and A & M College	Acquisition Of A prepFAST Sample Introduction System For Fundamental And Applied Research In The Biological Sciences	Biological Sciences	$44,145
037ENH-22	Prof. Richard Kurtz	Louisiana State University and A & M College	In situ size and shape characterization with a multifunctional sample environment for small-angle X-ray scattering at CAMD	Physics	$176,392
038ENH-22	Dr. Sibei Xia	Louisiana State University and A & M College	Enhancing research in wearable technologies using a thermal and sweating manikin	Social Sciences	$199,892
039ENH-22	Dr. Suzanne Tinsley	Louisiana State University Health Sciences Center Shreveport	Go Up State Technology Enhancement and Utilization [GUSTEAU] Project	Health and Medical Sciences	$192,952
040ENH-22	Dr. Santosh D'Mello	Louisiana State University in Shreveport	Enhancement of Laboratory Course and Research Infrastructure for Molecular and Cell Biology	Biological Sciences	$185,252
041ENH-22	Dr. Amy Erickson	Louisiana State University in Shreveport	Enhancement of Biological Science's Environmental Analysis Equipment at LSUS	Biological Sciences	$70,750
042ENH-22	Dr. Grace Hildenbrand	Louisiana State University in Shreveport	Virtual Reality Technology to Enhance Research Capabilities for Innovative Leadership Lab	Social Sciences	$116,255
043ENH-22	Dr. Joshua Rea	Louisiana State University in Shreveport	Completion of Center for Digital Humanities Recording Studio	Humanities	$14,181
044ENH-22	Dr. Timothy Winter	Louisiana State University in Shreveport	Communal Enterprise, Enhancing the Student Learning Experience via Learning Communities through the Creation of Health Science Visualization Projects	Health and Medical Sciences	$74,216
045ENH-22	Dr. Shaurav Alam	Louisiana Tech University	Enhancement of Material Lab Capabilities at Louisiana Tech University by Obtaining an X-ray fluorescence [XRF] Equipment	Engineering B (Industrial, Materials, Mechanical)	$32,165
046ENH-22	Dr. Kelly Crittenden	Louisiana Tech University	Enhancing Multi-purpose Manufacturing for Advanced Sensor and Materials Projects through a PolyJet 3D Printing System	Engineering B (Industrial, Materials, Mechanical)	$131,732
047ENH-22	Dr. Scott Poh	Louisiana Tech University	Incorporation of Zetasizer Analyzer for Research and Education at Louisiana Tech University	Health and Medical Sciences	$45,905
048ENH-22	Prof. Adarsh Radadia	Louisiana Tech University	Enhancing Materials Science Research, Education, and Training with Atomic Force Microscopy	Engineering B (Industrial, Materials, Mechanical)	$160,000
049ENH-22	Dr. Lee Sawyer	Louisiana Tech University	Enhancing Physics and Chemistry Education at Louisiana Tech: Time and Energy Spectroscopy	Physics	$65,999
050ENH-22	Dr. Jeff Shultz	Louisiana Tech University	Upgrading Technology to Modernize Sequencing and Genotyping Education at Louisiana Tech University	Biological Sciences	$36,231
051ENH-22	Prof. Shengnian Wang	Louisiana Tech University	Enhancing Nanomaterial Research and Education with a coupled TGA-GC-MS System	Engineering B (Industrial, Materials, Mechanical)	$110,660
052ENH-22	Dr. Amrita Datta	Loyola University New Orleans	Incucyte S3-a kinetic, high throughput, live cell imaging and analysis system for enhancing laboratory experience and collaborative research projects for undergraduates of biology, neuroscience, physics and biochemistry.	Biological Sciences	$185,285

Proposals Submitted to the Departmental Enhancement Program - Targeted
for the FY 2021-22 Review Cycle

Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Amount Requested
053ENH-22	Dr. Zhuang Li	McNeese State University	Enhancement of Education in Engineering Measurements	Engineering B (Industrial, Materials, Mechanical)	$76,050
054ENH-22	Dr. David McGraw	McNeese State University	The Development of a Multi-Interdisciplinary Laboratory for Space Physics Research	Physics	$164,088
055ENH-22	Dr. Kriti Vashisht	McNeese State University	4 Cs: Connect, Collaborate, Community Research, and Capacity Building	Health and Medical Sciences	$52,824
056ENH-22	Dr. Ali Reza Edrisi	Nicholls State University	Interactive Process Control and Safety Instrumented Laboratory	Engineering B (Industrial, Materials, Mechanical)	$138,534
057ENH-22	Dr. Allyse Ferrara	Nicholls State University	Enhancement of First-Year General Biology Laboratory Experience for Science Majors	Biological Sciences	$108,181
058ENH-22	Dr. Sherry Foret	Nicholls State University	Multidisciplinary Collaboration in Allied Health Sciences Using High Fidelity Simulation	Health and Medical Sciences	$54,761
059ENH-22	Dr. Gary LaFleur, Jr	Nicholls State University	Enhancing Student Internet Connectivity at Nicholls Satellite Facilities	Biological Sciences	$196,850
060ENH-22	Mrs. Meryn Olivier	Nicholls State University	Enhancement of Quality CPR in Trained and Untrained Bystanders Using Gamification and Simulation Tools	Health and Medical Sciences	$5,636
061ENH-22	Dr. Darcey Wayment	Nicholls State University	Using a liquid chromatograph mass spectrometer [LCMS] to enhance learning in the agricultural, chemical and biological sciences	Agricultural Sciences	$173,700
062ENH-22	Dr. Tammy Curtis	Northwestern State University	Digital Radiography Imaging System to Enhance Simulation Training for Radiologic Science at Northwestern State University	Health and Medical Sciences	$116,200
063ENH-22	Dr. Md Shahriar Hossain	Northwestern State University	Enhancement of experiential learning environment in IET education through contemporary laboratory experiments	Engineering B (Industrial, Materials, Mechanical)	$85,768
064ENH-22	Dr. James Mischler	Northwestern State University	Classroom & Professional Technology Project	Humanities	$42,230
065ENH-22	Dr. Adonay Sissay	Northwestern State University	Equipping Honors Physics Laboratory with Essential Tools	Physics	$19,488
066ENH-22	Dr. Susan Thorson-Barnett	Northwestern State University	Enhancing Psychology Department Through Course Development in Applied Behavior Analysis	Social Sciences	$16,137
067ENH-22	Dr. Priyadarshini Dasgupta	Southeastern Louisiana University	Implementation of novel and easy field data collection and analysis methodology for OSHE students in order to ameliorate the experiential knowledge	Engineering B (Industrial, Materials, Mechanical)	$24,000
068ENH-22	Dr. Brandi Decoux	Southeastern Louisiana University	Enhancing Student Experiences Through the Use of Human Movement Analyses in the KHS Biomechanics and Motor Behavior Laboratory	Health and Medical Sciences	$122,396
069ENH-22	Dr. Ahmad Fayed	Southeastern Louisiana University	Enhancing the Prototyping, Manufacturing, and Testing Infrastructure at Southeastern	Engineering B (Industrial, Materials, Mechanical)	$106,186
070ENH-22	Dr. Holly Kihm	Southeastern Louisiana University	Using Innovative Technologies to Enhance Students' Therapeutic Communication Skills	Social Sciences	$104,119
071ENH-22	Dr. Lisa Kuhn	Southeastern Louisiana University	Linux Servers for Science Majors: Promoting Computing Literacy	Biological Sciences	$90,861

Proposals Submitted to the Departmental Enhancement Program - Targeted
for the FY 2021-22 Review Cycle

Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Amount Requested
072ENH-22	Dr. Mohammad Saadeh	Southeastern Louisiana University	Enhancing Instruction and Training Quality to Prepare Qualified Graduates to Support Advanced Manufacturing Industries	Engineering B (Industrial, Materials, Mechanical)	$118,950
073ENH-22	Dr. Bovorn Sirikul	Southeastern Louisiana University	Equipment and technology upgrades to enhance student career preparation in health and kinesiology-related fields	Health and Medical Sciences	$116,000
074ENH-22	Dr. Stephen Akwaboa	Southern University and A&M College - Baton Rouge	Enhancement of Research and Education in Material Science through the Acquisition of Discovery Laser Flash [DLF1600] Investigative Thermal Equipment	Engineering B (Industrial, Materials, Mechanical)	$162,000
075ENH-22	Dr. Tyra Davis Brown	Southern University and A&M College - Baton Rouge	jAGS on the PROWL	Agricultural Sciences	$119,000
076ENH-22	Dr. David Adegboye	Southern University at New Orleans	Teaching and Research Enhancements in the Department of Natural Sciences Through the Establishment of Cell Culturing Facilities	Biological Sciences	$198,631
077ENH-22	Dr. Lisa Mims-Devezin	Southern University at New Orleans	Enhancement of Computer Laboratory Facility for Biology Instruction at Southern University At New Orleans [SUNO]	Biological Sciences	$194,254
078ENH-22	Dr. Harry Russell	Southern University at New Orleans	Enhancing Departmental Infrastructure for Online Capability Capacity Expertise and Broadened Participation	Social Sciences	$71,047
079ENH-22	Dr. Torin Sanders	Southern University at New Orleans	Virtual-Reality/Simulation Project	Social Sciences	$126,604
080ENH-22	Dr. Meiko Thompson	Southern University at New Orleans	The Nanotechnological and Electrochemical Enhancement of the Forensic Science Classroom	Biological Sciences	$193,035
081ENH-22	Dr. Hannah Frank	Tulane University	Acquisition of an Illumina MiSeq to enhance research, teaching and training capacity	Biological Sciences	$101,626
082ENH-22	Prof. Melanie Lamotte	Tulane University	Struggle for Freedom: The Surprising Story of Furcy Madeleine	Humanities	$43,485
083ENH-22	Prof. Jiang Wei	Tulane University	A fabrication and characterization system of quantum materials to enhance materials science and engineering research and education at Tulane	Physics	$199,881
084ENH-22	Dr. William Rothwell	Tulane University Health Sciences Center	Performance Enhancement through Simulation Training for Residents	Health and Medical Sciences	$198,660
085ENH-22	Dr. Jeffrey Shaffer	Tulane University Health Sciences Center	Enhancing undergraduate education, graduate education, and research through geospatial data science technologies	Biological Sciences	$76,702
086ENH-22	Prof. Dawn Wesson	Tulane University Health Sciences Center	Tulane Enhanced Biosafety Training Facility	Health and Medical Sciences	$200,000
087ENH-22	Mrs. Erin Baer	University of Louisiana at Lafayette	Leveraging Modern Technology to Advance Education and Research in Early Childhood	Social Sciences	$111,764
088ENH-22	Dr. Alan Barhorst	University of Louisiana at Lafayette	CNC Mill for UL Lafayette Mechanical Engineering and Industrial Technology Departments	Engineering B (Industrial, Materials, Mechanical)	$200,000
089ENH-22	Dr. Terrence Chambers	University of Louisiana at Lafayette	Advanced Simulation and Computing Testbed to Enhance Research in Smart Grids	Engineering B (Industrial, Materials, Mechanical)	$131,652
090ENH-22	Dr. Greggory Davis	University of Louisiana at Lafayette	Health and Kinesiology Lab Enhancement	Health and Medical Sciences	$177,875

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for the FY 2021-22 Review Cycle

Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Amount Requested
091ENH-22	Dr. Rachel Ellison	University of Louisiana at Lafayette	Updating the Population Health Analytics and Decision Support Lab	Health and Medical Sciences	$138,319
092ENH-22	Dr. Tanvir Faisal	University of Louisiana at Lafayette	Enhancement of laboratory testing facilities for biomedical engineering research and teaching	Engineering B (Industrial, Materials, Mechanical)	$93,260
093ENH-22	Dr. Seonhee Jang	University of Louisiana at Lafayette	Acquisition of nanoindentation to enhance materials and manufacturing research and teaching	Engineering B (Industrial, Materials, Mechanical)	$144,500
094ENH-22	Dr. Mohammad Khattak	University of Louisiana at Lafayette	Advanced Rheometer System for Novel Materials Characterization	Engineering B (Industrial, Materials, Mechanical)	$92,895
095ENH-22	Dr. Douglas Williams	University of Louisiana at Lafayette	Improving Engineering Education and the Pipeline of Engineering Majors Through a Preservice Teacher Bioinspired Engineering Maker Space and Curricular Enhancements	Engineering B (Industrial, Materials, Mechanical)	$94,476
096ENH-22	Prof. Wu Xu	University of Louisiana at Lafayette	Study of specific interactions between transcription factor and coactivator aimed for finding a solution of attenuating cytokine storm due to COVID-19 infection through synergistic efforts between Tulane University and UL Lafayette	Health and Medical Sciences	$79,967
097ENH-22	Dr. Peng Yin	University of Louisiana at Lafayette	Acquisition of a Micro Combined Heat and Power [Micro-CHP] System to Enhance Thermofluids Teaching and Energy Research	Engineering B (Industrial, Materials, Mechanical)	$65,815
098ENH-22	Dr. Heath Barnett	University of Louisiana at Monroe	Acquisition of a Fluorescence Spectrometer System to Enhance Education and Research	Biological Sciences	$60,544
099ENH-22	Mr. John Herrock	University of Louisiana at Monroe	Industrial Hygiene Teaching Laboratory Equipment Enhancement	Health and Medical Sciences	$52,160
100ENH-22	Dr. Susan Lacey	University of Louisiana at Monroe	The Anatomage Clinical Table: Bringing Pathophysiology and Clinical Care to Life	Health and Medical Sciences	$60,800
101ENH-22	Dr. Emily Mike	University of Louisiana at Monroe	Synthetic Human Cadaver	Health and Medical Sciences	$88,974
102ENH-22	Dr. Anita Sharma	University of Louisiana at Monroe	Connecting Students to Seniors	Social Sciences	$98,548
103ENH-22	Dr. Anthony Walker	University of Louisiana at Monroe	Acquisition of Advanced Patient Simulator for Enhancement of Pharmacy Education and Research at University of Louisiana at Monroe	Health and Medical Sciences	$110,070
104ENH-22	Dr. Lothar Birk	University of New Orleans	Subtractive Rapid Prototyping of 3D Free-Form Shapes and Molds	Engineering B (Industrial, Materials, Mechanical)	$199,372
105ENH-22	Dr. Marc Bonis	University of New Orleans	SOE Human Performance and Health Promotion Health Science Lab	Health and Medical Sciences	$88,010
106ENH-22	Dr. Bernard Rees	University of New Orleans	Multidisciplinary Research and Education in Cellular and Mitochondrial Energetics	Biological Sciences	$172,981

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Proposal Number	PI Name	Institution	Project Title	Primary Discipline	Amount Requested
107ENH-22	Dr. Damon Smith	University of New Orleans	Laboratory Enhancement for Additive Manufacturing Material Development	Engineering B (Industrial, Materials, Mechanical)	$155,000
108ENH-22	Dr. Shearon Roberts	Xavier University of LA	Teaching Health Communication to Enhance Health Literacy	Social Sciences	$187,165

Total Proposals Submitted	91
Total Funds Requested	$10,579,270

APPENDIX B

Departmental Enhancement Rating Form

Goals/Objectives 10 Points _____

-To what degree are the goals clearly stated, reasonable, achievable, and related to the mission statement of the academic unit? To what degree are the objectives measurable and related to the goals?

Comments:

-Strengths
-Weaknesses

Work Plan 20 Points _____

-To what degree does the proposal establish a compelling timeline for grant activities with a clear delineation of which team member is responsible for each task? To what degree does the work plan clearly establish the necessary tasks for achieving the project goals and objectives?

Comments:

-Strengths
-Weaknesses

Impact 30 points _____

-To what degree does the project elevate the unit's ability to perform significant research, compete for research funding, improve facilities or curriculum in a way that impacts recruitment, retention, and the workforce competitiveness of graduates? To what degree is this impact related to the mission statement of the academic unit?

Comments:

-Strengths
-Weaknesses

Evaluation 10 Points _____

-To what degree is a plan established for evaluating the impact of the project with criteria based on specific metrics?

Comments:

-Strengths
-Weaknesses

Sustainability **10 Points** _____

-To what degree are the goals, impact and individual budget requests sustainable beyond the life of the grant? To what degree are maintenance or sustainability plans established for equipment, software, supplies, as well as funds dedicated to staff, faculty and graduate students?

Comments:

-Strengths
-Weaknesses

Investigators **10 Points** _____

-To what degree do the team members appear capable of implementing the work plan?

Comments:

-Strengths
-Weaknesses

Budget **10 Points** _____

-To what degree is the budget efficiently crafted to maximize the project's impact? To what degree does the budget justification clearly explain the relationship of each individual request to the proposal's impact, goals and work plan?

Comments:

-Strengths
-Weaknesses