FY 2021-2022 PLAN AND BUDGET

FOR THE EXPENDITURE OF REVENUES AVAILABLE FROM THE BOARD OF REGENTS SUPPORT FUND

WITH AN OVERVIEW OF RESULTS OBTAINED

SUBMITTED TO THE

GOVERNOR AND THE LEGISLATURE

IN ACCORDANCE WITH THE CONSTITUTIONAL PROVISIONS OF

ARTICLE VII, SECTION 10.1

ADOPTED

January 6, 2021

BY THE

LOUISIANA BOARD OF REGENTS

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Investment of Board of Regents Support Fund Money in Higher Education
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- **$1.47 BILLION GENERATED IN EXTERNAL FUNDING ($2.28 FOR EACH BoRSF DOLLAR INVESTED IN COMPETITIVE GRANTS)** for grants and contracts through Federal, private, and industry sources

- **$426 MILLION GENERATED IN NON-STATE CONTRIBUTIONS FOR $281 MILLION IN BoRSF MATCHES ($1.52 FOR EACH BoRSF DOLLAR MATCHED)** for faculty and scholarship endowments

- **MORE THAN 4,500 EXTERNAL AWARDS** from Federal, private and other non-Support Fund sources

- **313 ENDOWED CHAIRS FOR EMINENT SCHOLARS** established at 25 campuses
  - Two hundred fifty-three (253) $1 million chairs
  - Fifty-six (56) $2 million chairs
  - Three (3) $3 million chairs
  - One (1) $4 million chair
  - Includes ninety-nine (99) chairs funded by special legislative appropriation

- **2,551 ENDOWED PROFESSORSHIPS** established at 40 campuses since FY 1990-91

- **448 UNDERGRADUATE, GRADUATE, AND WORKFORCE STUDENT SCHOLARSHIPS** endowed at 36 campuses since FY 2007-08

- **1,683 SUPERIOR GRADUATE FELLOWSHIPS** supported at 16 campuses

- **APPROXIMATELY 530 PATENTS FILED** during the grant period

- **MORE THAN 14,000 PUBLICATIONS** in peer-reviewed journals, scholarly monographs, and conference proceedings

- **EXPANDED MULTI-CAMPUS COLLABORATION** increases competitiveness for Federal R&D money

PLAN AND BUDGET
FOR THE EXPENDITURE OF REVENUES AVAILABLE FROM
THE BOARD OF REGENTS SUPPORT FUND
FISCAL YEAR 2021-22

PREFACE

A sound educational system at all levels and in all disciplines which is well supported on a consistent basis is crucial to achieving the two higher education goals established in the Constitutional amendment which created the Louisiana Education Quality Support Fund (hereinafter referred to as the Board of Regents Support Fund): enhancing academic programs and units and promoting economic development. The four programs of the Board of Regents Support Fund (BoRSF) pursue separate but related strategies in the quest to achieve these goals. Since its inception in 1986, the BoRSF has evinced a broad and long-range commitment to building and maintaining strength across all academic disciplines and, in so doing, to promoting economic development through the enhancement of higher education in general. As higher education becomes more focused on defined education and workforce missions, the BoRSF is adjusting to target funding to these priority areas and ensure that the most critical needs and priorities of the State, systems, and campuses are supported in ways that enhance higher education, support attainment goals, and contribute to Louisiana's economic growth.

I. INTRODUCTION

According to Article VII, Section 10.1 of the Louisiana Constitution, at least sixty days prior to each regular session of the Legislature the Board of Regents must submit to the Governor and the Legislature a proposed plan and budget for the expenditure, during the coming fiscal year, of money available to higher education from the Board of Regents Support Fund. Higher education's portion of these funds may be spent for "any or all" of the following purposes: (1) endowment of chairs for eminent scholars; (2) recruitment of superior graduate students; (3) carefully defined research efforts; and (4) enhancement of the quality of academic, research, or agricultural departments or units within a postsecondary institution.

1.1 BOARD OF REGENTS SUPPORT FUND REVENUE PROJECTION, FY 2021-22

The base revenue amount used in the FY 2021-22 BoRSF Plan and Budget is $20,000,000, reflecting the most recent projection of the Revenue Estimating Conference ($21,950,000), as well as historic earnings levels.

1.2 BUDGET RATIONALE AND PREAMBLE

In deliberations about the Board of Regents Support Fund Plan and Budget for FY 2021-22 and the Fund's structure in future years, the Board recognized several issues:

- The need to assure alignment of BoRSF programs and funding priorities with the new Board of Regents Master Plan for Higher Education, *Louisiana Prospers: Driving Our Talent Imperative*, and its priorities and strategies to drive attainment through 2030;

- Continuing high demand for drastically reduced Support Fund resources under all program components along with increases in proposal quality and outstanding results achieved;

- The State's continued emphasis on economic development and diversification, particularly related to 21st-century innovation industries and student preparation for the workforce;

- Demand from campuses, foundations, and donors for endowment matching significantly beyond available Support Fund resources;

- The critical importance of data collection, analysis, and evaluation to inform decision making; and

- Attention to constitutionally defined Support Fund goals, objectives, and restrictions within the context of needs and impacts related to the State's higher education priorities.

It is vital that cores of strength be maintained in and across the four interrelated Support Fund components. While the Board has increased funding available for endowment matching, which now comprises approximately half of all available first-year funding, to encourage private philanthropy, it is also mindful that significant reductions already taken across Support Fund grant programs could jeopardize the programs' viability; further reductions will impair the impact and quality of the Support Fund as a whole, and its ability to achieve mandated goals. In addition, for BoR Master Plan goals to be met and for endowments to be effective mechanisms for student and faculty support, the BoRSF must continue to provide direct funding for necessary infrastructure and equipment, strong educational and training opportunities, and supportive cutting-edge facilities and research across priority departments and units. It is therefore imperative to balance matching funds for endowments with monies for competitive grants across the Enhancement and R&D programs.

1.3 ADOPTION OF FY 2021-22 PLAN AND BUDGET

The following Plan and Budget for FY 2021-22 were adopted by the Board of Regents at its meeting of January 6, 2021.

2. LONG-RANGE PLANNING AND EVALUATION

2.1 LONG-RANGE PLANNING

In FY 1987-88 the Board of Regents determined that, in addition to the Constitutionally required annual plan and budget, which sets forth short-term programmatic goals and fiscal objectives, long-range plans were needed to accomplish the interrelated purposes and goals of the Support Fund. Short-term activities outlined in the annual plans and budgets could then be shaped by these long-term goals.

The first long-range plan evolved from a white paper prepared by the Louisiana Stimulus for Excellence in Research (LaSER) Committee. Titled *Strategic Plan for Higher Education's Portion of the Louisiana Education Quality Support Fund*, it was adopted in 1988. Cognizant of changes in economic conditions which affected academic issues, the Board in 1993 adopted a revised plan: *Board of Regents Support Fund Long-Range Strategic Plan for Higher Education*. It maintained the central themes and strategies of the earlier plan, adjusted to reflect changing conditions and lessons learned. In 1999 the Board adopted a second revised plan to guide the Support Fund through FY 2005-06. In the wake of Hurricanes Katrina and Rita, the Board extended that Strategic Plan through FY 2006-07 and at its meeting of June 22, 2006 adopted a new Strategic Plan to begin in FY 2007-08. This Plan continued the approach of balancing continuity based on effectiveness with revisions reflecting lessons learned.[1]

[1] Copies of the 1988, 1993, 1999, and 2007 Strategic Plans are available in the Board's office and at https://web.laregents.org/program-evaluations-2/strategic-planning/.

In light of dramatic declines in Support Fund earnings, totaling more than 40% since 2008, as well as changing circumstances across higher education in Louisiana, the Board of Regents undertook a review and restructuring of the BoRSF in 2016. Campuses at all levels, higher education systems, and other stakeholders were provided with numerous opportunities to assist in shaping the Support Fund for the future through participation in meetings of the two Support Fund advisory committees constituted in Board of Regents policy, as well as extensive circulation of concepts and drafts. In November 2016 the Board adopted a revised structure, organized around current and prospective campus, system, and statewide strengths and needs, as well as individual campus roles, scopes, missions, and priorities. This revised structure formed the basis for the FY 2017-18 Plan and Budget and was implemented for that fiscal year's competitive cycle. It anticipated the new Master Plan in its emphasis on campus role, scope, mission, and strategic priorities and alignment with long-term education and research goals. As a reflection of Master Plan priorities, the adopted structure remains in place for FY 2021-22. As implementation continues, the Regents will monitor outcomes and make any changes needed to boost the impact of the Support Fund's limited dollars and align activities fully with Louisiana's Higher Education Master Plan.

2.2 LONG-RANGE EVALUATION

From the first Strategic Plan in 1988, methods have been in place for assessment of the long-range impacts of the Board of Regents Support Fund, including levels of success attained by individual funded projects and the programs and subprograms through which funding is awarded. In the early years, program and project success was evaluated annually by the BoRSF Planning Committee using programmatic assessments provided by external reviewers and annual and/or final reports submitted by project directors. In FY 1990-91, the Board undertook a systematic evaluation process, culminating in an evaluation by a distinguished panel of out-of-state experts in 1994. At that time, the panel concluded that the BoRSF was efficiently administered, was effectively addressing many of the State's economic development and higher education infrastructure needs, and had been a critical component in attracting federal funds to the State.

As Support Fund operations continued in the 1990s, the need for comprehensive and regular assessment of programmatic benefits became evident and the Board accordingly adopted processes by which this could be accomplished. Over the past two decades, numerous programmatic evaluations have been conducted, which have yielded significant insights into Support Fund operations and revisions to maximize the benefits to higher education of programmatic expenditures:

- The 1998 Endowed Chairs review culminated in the March 1999 adoption of the Board of Regents Endowed Chairs Policy, which significantly strengthened a program with already impressive accomplishments.

- The FY 1999-2000 comprehensive review of the Endowed Professorships Subprogram led to the adoption, in December 2000, of the Board of Regents Endowed Professorships Policy, improving and focusing that Subprogram.

- The FY 2000-01 review of the Recruitment of Superior Graduate Students Program led to the January 2002 adoption of recommendations designed to elevate the program's accomplishments.

- The 2009 review of Endowed Chairs resulted in policy and program revisions implemented during the FY 2009-10 review process.

- The FY 2001-02 and 2010-11 reviews of Research and Development initiatives yielded powerful evidence of the program's success as well as recommendations for improvement.

- During 2016, comprehensive assessment by the Board of Regents and higher education stakeholders of Support Fund priorities and programs in the context of the changing landscape for higher education in Louisiana led to adoption and implementation of a revised structure for the BoRSF as a whole. The new structure is continuously monitored to determine how revisions are working, the degree to which the Support Fund articulates with statewide priorities, and whether desired outcomes are being achieved.

- As part of Master Planning activities in 2019, the Support Fund was again reviewed to determine the degree to which it aligns with statewide priorities and postsecondary education's long-range goals. The Master Plan acknowledges the Support Fund's value and urges strategic efforts to ensure it continues to reinforce and adapt as necessary to long-term goals and objectives for higher education, particularly related to university-based research and education/workforce development.

3. AN OVERVIEW OF RESULTS OBTAINED

Significant benefits are accruing to the State as a result of the Support Fund investment in higher education. The results reported are even more impressive when one understands that: (1) realization of the full benefit of investment in higher education is a long-term proposition, and results evolve over a period of many years; (2) reported results include **only benefits derived during the life of the grants awarded**, and do not attempt to measure the many benefits which accrue after the conclusion of relatively short-term BoRSF contracts; and (3) no specific benefits beyond the initial private match are claimed as a result of faculty endowment subprograms, and no specific research support or external grants have been attributed to the Recruitment of Superior Graduate Students Program. Programmatic evaluations have led the Board to adopt reporting mechanisms that do, however, enable measurement of external funding success related to BoRSF components.

3.1 STATEWIDE RESULTS

* **$1.47 billion in grant and contract funding has been generated** from federal, private, and industry sources from the BoRSF's investment in Enhancement and R&D awards, thereby significantly increasing the total monies available for higher education in Louisiana. This represents a **return during the contract period of $2.28 for every Support Fund dollar invested** in competitive grants since the inception of the programs. The figure reflects only external funds generated during the life of the awards; additional revenues are and will continue to be generated after award completion.

* **Approximately $426 million in non-State contributions, matched by more than $281 million from the Support Fund, have been provided** to Louisiana institutions to establish endowed chairs, professorships, and graduate, undergraduate, and two-year workforce scholarships. The market value of BoRSF-matched endowment accounts is more than $1 billion.

- **More than 4,500 grants and/or contracts have been awarded** to Louisiana postsecondary institutions from external funding agencies directly and indirectly as a result of BoRSF investments, and Louisiana's competitiveness for federal funding has increased, as reflected in a steady growth in research expenditures over the last decade.

- **Approximately 530 patents related to BoRSF-supported research have been filed** during the life of the awards.

- **Increased institutional collaboration has resulted from Support Fund investments, as evidenced by an unbroken stream of multi-million-dollar, multi-institutional federal grants awarded over the past three decades to the Board of Regents on behalf of statewide university consortia for research initiatives.** Their purpose is to increase research capacity and success, as well as the amount of federal research and development money awarded to Louisiana scientists and engineers. (See descriptions of statewide awards in Attachment I.)

3.2 RESULTS FROM SELECTED PROJECTS

Attachment II contains brief summaries of the achievements of selected recent projects funded across Support Fund components.

4. LEVERAGING BoRSF MONEY, EXPANDING BoRSF OPPORTUNITIES, AND PROMOTING MULTI-INSTITUTIONAL COOPERATION AND COLLABORATION

The Board began co-sponsoring research projects with the National Science Foundation (NSF) and supporting the development of scientific research and educational infrastructure in Louisiana under NSF's Experimental Program to Stimulate Competitive Research (EPSCoR) during FY 1988-89. In FY 1991-92 the Board dedicated a portion of Board of Regents Support Fund monies as matching commitments for two statewide, multi-institutional initiatives to be submitted in national competitions for federal funds in areas that coincided with constitutionally prescribed BoRSF activities: the NSF LaSER Advanced Development Proposal (ADP) and the Louisiana Systemic Initiatives Program (LaSIP) in Math and Science Education.[2] The reasons for, and goals of, these matching commitments were fourfold:

- To continue and accelerate the leveraging of federal money with BoRSF investments for statewide collaborative proposals;

- To expand opportunities available through BoRSF programs;

- To augment infrastructure development begun under BoRSF programs, which is necessary to enable Louisiana's postsecondary campuses to compete with greater success for federal funding; and

- To promote multi-institutional collaboration and cooperation among Louisiana's colleges, universities, and K-12 schools.

[2] Details of these awards are included in Attachment I.

The FY 1991-92 Board of Regents Support Fund Plan and Budget described the dedication of BoRSF money as State matching commitments for these multi-year federal grant proposals (in preparation during FY 1990-91) under the auspices of the Board. Each proposal required significant State matching money as a condition of funding.

4.1 FUNDED PROPOSALS: JOINT BoRSF/FEDERAL PROGRAMS WITH STATEWIDE IMPACT

The Board was successful in the early NSF EPSCoR competitions, and these efforts encouraged continued pursuit of competitive federal research and educational dollars from NSF and a variety of other agencies including the National Aeronautics and Space Administration (NASA), the Department of Defense (DOD), the Department of Energy (DOE), the Department of Commerce (DOC), the Environmental Protection Agency (EPA), and the National Institutes of Health (NIH). Support Fund obligations for these federal grants appear below in Table I. A more detailed description of each grant, including the federal funds received, is in Attachment I.

The Board's decision to leverage the Support Fund by targeting matches for federal grant opportunities has borne significant fruit. It has enabled the State to progress from receiving minimal support from NSF for research collaborations in the 1980s, to the current environment, in which Louisiana is among the elite of EPSCoR states in successful federally sponsored grants and research activities and one of very few to receive an unbroken stream of large NSF Track 1 awards since the mid-1980s.

Table I
Federal Matching Grants Subprogram
For Joint State and Federal Projects with Systemic and/or Statewide Impact
By Types of Support Fund Activity, Monetary Commitment, and Duration

Federal Grant	Type of Support Fund Activity	Amount of Annual Matching Commitment	Amount of Total Matching Commitment	FYs in which Commitment is Applicable	Total Length of Commitment in Years
NSF/EPSCoR[3] LaSER Implementation	TR ENH: 30% R&D: 70%	Yr. 1 $685,043 Yr. 2 440,202 Yr. 3 191,791	$1,317,036	1988-89 through 1990-91	3[3]
NSF/SI LaSIP	TR ENH, UG ENH, PLEx: Pro-rata	$1 Million	$5 Million	1991-92 through 1995-96	5
NSF/EPSCoR LaSER Advanced Development Program	TR ENH: 1/3 GR FEL: 1/3[4] ITRS: 1/3	$1.2 Million	$4.8 Million	1991-92 through 1994-95	4

[3] The thirteen research projects that were a part of the first NSF EPSCoR award received Board of Regents Support Fund money for two years prior to receiving NSF support in January of 1989 (FY 1988-89), for a total of five years and $3,374,355 in Board of Regents Support Fund money. This table reflects only years three through five of Board of Regents Support Fund money (or $1,317,036), since only that period of State support that coincides with Federal Support can be counted as part of the State's matching commitment. (See Section 4.1.)

[4] Because of the nature of the Graduate Fellows Program, money for this component is committed in the fiscal year prior to expenditure. For this reason, the first year's Graduate Fellows portion of matching funds committed to a particular project was usually actually charged to Enhancement or R&D, or prorated between the two program components.

Federal Grant	Type of Support Fund Activity	Amount of Annual Matching Commitment	Amount of Total Matching Commitment	FYs in which Commitment is Applicable	Total Length of Commitment in Years
NASA/LaSPACE	RCS: 60% GR FEL: 40%[4]	$100,000	$500,000	1991-92 through 1995-96	5
DOE/EPSCoR Implementation	TR ENH: 60% RCS: 40%	$519,795	$1,039,590	1993-94 through 1994-95	2
DOD/EPSCoR Planning	TR ENH: 100%	$25,000	$25,000	1993-94	1
NASA/EPSCoR Implementation	TR ENH: 50% RCS: 25% GR FEL: 25%[2]	$500,000	$1.5 Million	1994-95 through 1996-97	3
1993 DEPSCoR Implementation	TR ENH: 50% RCS: 25% GR FEL: 25%[2]	Yr. 1 $166,666 Yr. 2 166,666 Yr. 3 166,667	$500,000	1994-95 through 1996-97	3
NSF/SI Teaching Scholars	TR ENH: 100%	$ 50,000	$250,000	1994-95 through 1998-99	5
NSF/EPSCoR LaSER Systemic Initiatives	TR ENH: 60% UG ENH: 10% R&D: 20% GR FEL: 10%[2]	$1 Million	$3 Million	1995-96 through 1997-98	3
DOE/EPSCoR Implementation Renewal	TR ENH: 10% R&D: 70% GR FEL: 20%[2]	$800,000	$3.2 Million	1995-96 through 1998-99	4
NSF/SI LAMP	TR ENH: 100%	Yr.1 $200,000 Yrs. 2-5 500,000	$2.2 Million	1995-96 through 1999-2000	5
NASA LaSPACE Renewal	RCS: 50% GR FEL: 50%[2]	$100,000	$400,000	1996-97 through 1999-2000	4
1995 DEPSCoR Implementation	TR ENH: 50% R&D: 25% GR FEL: 25%[2]	Yr. 1 $551,439 Yr. 2 311,740 Yr. 3 311,972	$1,175,151	1996-97 through 1998-99	3
NSF/SI LaSIP Renewal	TR ENH: 100%	$1 Million	$5 Million	1996-97 through 2000-01	5
NASA/EPSCoR Implementation Renewal	TR ENH: 50% RCS: 25% GR FEL: 25%[2]	$500,000	$1 Million	1997-98 through 1998-99	2
NSF/SI Delta Rural SI	TR ENH: 100%	$200,000	$1 Million	1997-98 through 2001-02	5
LaCEPT Supplemental	TR ENH: 100%	$100,000	$300,000	1998-99 through 2000-01	3
1997 DEPSCoR Implementation	TR ENH: 50% R&D: 25% GR FEL: 25%[2]	$250,000	$750,000	1997-98 through 1999-2000	3
NSF/EPSCoR New Cooperative Agreement	TR ENH: 75% R&D: 25%	$1 Million	$3 Million	1998-99 through 2000-01	3
1999 DEPSCoR Implementation	TR ENH: 100%	Yr. 1 $65,998 Yr. 2 61,900 Yr. 3 61,900	$189,798	1999-2000 through 2001-02	3

Federal Grant	Type of Support Fund Activity	Amount of Annual Matching Commitment	Amount of Total Matching Commitment	FYs in which Commitment is Applicable	Total Length of Commitment in Years
EPSCoT	TR ENH: 100%	$300,000	$300,000	1999-2000	1.5
NASA/EPSCoR Continuation Funding	TR ENH: 100%	$250,000	$250,000	1999-2000	1
NASA/EPSCoR Preparation Grant	TR ENH: 100%	$100,000	$100,000	1999-2000	1
NASA LaSPACE Continuation	TR ENH: 100%	$200,000	$1 Million	2000-01 through 2004-05	5
EPA/EPSCoR 2000	TR ENH: 100%	Yr. 1 $255,261 Yr. 2 244,739	$500,000	1999-2000 through 2000-01	2
LAMP Phase II	TR ENH: 100%	$500,000	$2.5 Million	2000-01 through 2004-05	5
NSF/EPSCoR Research Infrastructure Improvement	TR ENH: 100%	$1 Million	$3 Million	2001-02 through 2003-04	3
NASA/EPSCoR 2000	TR ENH: 100%	$700,000	$2.1 Million	2001-02 through 2003-04	3
EPA/EPSCoR 2001	TR ENH: 100%	Yr. 1 $250,000 Yr. 2 244,542	$494,542	2002-03 through 2003-04	2
NSF/EPSCoR Research Infrastructure Improvement II	TR ENH: 100%	$1 Million	$3 Million	2003-04 through 2005-06	3
DOE/EPSCoR Implementation 2004	TR ENH: 100%	$400,000	$1.2 Million	2004-05 through 2006-07	3
NASA/EPSCoR 2000 Renewal	TR ENH: 100%	$493,280	$986,560	2004-05 through 2005-06	2
LAMP Phase III	TR ENH: 100%	$500,000	$2.5 Million	2005-06 through 2009-10	5
NASA LaSPACE Continuation II	TR ENH: 100%	$200,000	$1 Million	2005-06 through 2009-10	5
NASA/EPSCoR 2006 - Infrastructure	TR ENH: 100%	$125,000	$375,000	2006-07 through 2008-09	3
NASA/EPSCoR 2006 - Research 1	TR ENH: 100%	$250,000	$750,000	2006-07 through 2008-09	3
NASA/EPSCoR 2006 - Research 2	TR ENH: 100%	$250,000	$750,000	2006-07 through 2008-09	3
NSF EPSCoR Cyber RII	TR ENH: 100%	$1 Million	$3 Million	2006-07 through 2008-09	3
DOE EPSCoR Implementation Renewal	TR ENH: 100%	$400,000	$1.2 Million	2007-08 through 2009-10	3
NASA EPSCoR 2009 - Research 3	TR ENH: 100%	$250,000	$750,000	2009-10 through 2011-12	3
NASA EPSCoR 2009 - Infrastructure	TR ENH: 100%	$125,000	$375,000	2009-10 through 2011-12	3
NASA EPSCoR 2009 - Research 4	TR ENH: 100%	$250,000	$750,000	2009-10 through 2011-12	3

Federal Grant	Type of Support Fund Activity	Amount of Annual Matching Commitment	Amount of Total Matching Commitment	FYs in which Commitment is Applicable	Total Length of Commitment in Years
NSF EPSCoR RII Track 1 Proposal	TR ENH: 100%	$2 Million	$10 Million	2009-10 through 2013-14	5
NASA LaSPACE Renewal	TR ENH: 100%	$250,000	$1.25 Million	2010-11 through 2014-15	5
LAMP Phase IV	TR ENH: 100%	$500,000	$2.5 Million	2010-11 through 2014-15	5
NASA EPSCoR 2009 - Research 5	TR ENH 100%	$250,000	$750,000	2011-12 through 2013-14	3
NASA EPSCoR Research Infrastructure	TR ENH 100%	$125,000	$375,000	2012-13 through 2014-15	3
NASA EPSCoR 2009 - Research 6	TR ENH 100%	$250,000	$750,000	2012-13 through 2014-15	3
NASA EPSCoR - Research 7	TR ENH 100%	$250,000	$750,000	2013-14 through 2015-16	3
DOE EPSCoR Implementation 2014	TR ENH 100%	$500,000	$500,000	2014-15	1
NASA EPSCoR - Research 9	TR ENH 100%	$250,000	$750,000	2015-16 through 2017-18	3
NASA EPSCoR Research Infrastructure	TR ENH 100%	$125,000	$375,000	2015-16 through 2017-18	3
NSF EPSCoR RII Track 1 Proposal	TR ENH: 100%	$800,000	$4 Million	2015-16 through 2019-20	5
NASA LaSPACE Continuation	TR ENH: 100%	$250,000	$750,000	2015-16 through 2017-18	3
NASA EPSCoR - Research 10	TR ENH 100%	$250,000	$750,000	2016-17 through 2018-19	3
DOE EPSCoR Implementation Renewal	ENH 100%	$500,000	$500,000	2017-18	1
NASA EPSCoR - Research 11	ENH 100%	$250,000	$750,000	2017-18 through 2019-20	3
NASA EPSCoR - Research 12	ENH 100%	$250,000	$750,000	2018-19 through 2020-21	3
NASA EPSCoR Research Infrastructure Fourth-Yr. Extension	ENH 100%	$125,000	$125,000	2018-19	1
NASA LaSPACE Fourth-Yr. Extension	ENH: 100%	$250,000	$250,000	2018-19	1
NASA EPSCoR - Research 13	ENH 100%	$250,000	$750,000	2019-20 through 2021-22	3
NASA EPSCoR Research Infrastructure	ENH 100%	$125,000	$375,000	2019-20 through 2021-22	3

Federal Grant	Type of Support Fund Activity	Amount of Annual Matching Commitment	Amount of Total Matching Commitment	FYs in which Commitment is Applicable	Total Length of Commitment in Years
NASA LaSPACE Fifth-Yr. Extension	ENH: 100%	$250,000	$250,000	2019-20	1
NASA EPSCoR - Research 14	ENH 100%	$250,000	$750,000	2020-21 through 2022-23	3
NASA LaSPACE	ENH: 100%	$250,000	$1,000,000	2020-21 through 2023-24	4
NSF EPSCoR RII Track 1 Proposal	ENH: 100%	$800,000	$4 Million	2020-21 through 2024-25	5
NASA EPSCoR - Research 15 (pending)	ENH 100%	$250,000	$750,000	2021-22 through 2023-24	3

4.2 PENDING PROPOSALS

The NASA EPSCoR Program annually issues a Cooperative Agreement Notice (CAN) soliciting university-based research activities which will make significant contributions to the strategic research and development priorities of NASA and to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the State. It is anticipated that $250,000 will be required in FY 2021-22 to provide match to a successful new project funded through this solicitation, to be released in 2020-21. The funds are included as a new award in the Federal Matching Grants component of the Enhancement Program (see Section 5.5.1).

4.3 MULTIDISCIPLINARY AND MULTI-INSTITUTIONAL PROPOSALS IN SUPPORT FUND PROGRAM COMPONENTS

The Board has long recognized the potential of multidisciplinary and/or multi-institutional projects to enhance academic quality and promote economic development, as well as to make the most prudent use of scarce State funds and promote resource sharing. Accordingly, the Board has encouraged these kinds of proposals since the inception of the Board of Regents Support Fund, not only as part of the joint federal/State efforts described in Section 4.1 of this Plan and Budget, but also in proposals submitted under traditional BoRSF program components. The Board's support of such proposals has helped to seed the Louisiana Academic Library Network (LaLINC) project, which as the Louisiana Library Network (LOUIS) has computerized databases, linked academic libraries throughout the State, and supported development and adoption of Open Educational Resources (OER), as well as the Louisiana Optical Network Infrastructure (LONI), an essential tool to maintain and grow Louisiana's research competitiveness.

To further emphasize its belief in the potential of multidisciplinary, multi-institutional efforts to achieve BoRSF goals and promote the best interests of the State, the Board has specifically encouraged, through requests for proposals and long-range planning documents, the submission of collaborative proposals that promise statewide benefits. Reflecting this emphasis, beginning with its FY 2000-01 budget, the BoRSF has set aside funds each year from the Traditional Enhancement Subprogram for the funding of these types of projects.

Consistent with the growing emphasis placed on interdisciplinary research throughout the academic community and the large numbers of quality proposals submitted each year in the Multidisciplinary Enhancement category, the Board increased the funds available for awards in this category to $950,000 in the FY 2004-05 Plan and Budget. The funding level for Multidisciplinary Enhancement in subsequent years was calculated as a percentage of the Traditional Enhancement budget (20%). In retaining this percentage calculation in FY 2021-22, the Board reaffirms its encouragement of multidisciplinary and/or multi-institutional proposals across all Support Fund program components. Any unexpended Multidisciplinary funds will revert to discipline-based Departmental Enhancement (see Section 5.5.5).

5. BOARD OF REGENTS SUPPORT FUND PROGRAM COMPONENTS

5.1 BUDGETARY CONTINGENCIES

If in FY 2021-22 the income received for the higher education portion of the Board of Regents Support Fund is greater than the $20,000,000 projected, additional revenues shall be allocated to existing programs as approved by the Board. In the event that earnings are lower than projected, proportionate cuts shall be taken in first-year amounts allocated for proposals across all competitive programs and subprograms. If cuts to competitive programs must be taken at a level that threatens their viability, consideration shall be given to suspending competitions for new monies during FY 2021-22. Only after all funding for competitive programs has been eliminated will reductions in Endowed Professorships be considered, provided that allocated funds are in excess of those needed to provide matching slots as guaranteed in Board policy. If revenues are insufficient to provide guaranteed matching slots, campuses will be notified of the shortfall and plans to accommodate the guarantees in a future fiscal year. Except as noted above, only after all budgeted first-year program funds have been eliminated shall any necessary reductions be taken in federal matching commitments (both prior-year and new) or prior contractual obligations.

5.2 ENDOWED CHAIRS FOR EMINENT SCHOLARS - $2,020,000

The Endowed Chairs for Eminent Scholars Program, introduced in 1987, is designed to enhance the recruitment and retention of distinguished faculty at higher education institutions throughout Louisiana. Beginning in 1990, the program was budgeted at an annual level of at least $3,200,000. Legislative supplemental appropriations, beginning in FY 1995-96 and continuing in several subsequent years, enabled the funding of 99 additional chairs. Through FY 2019-20, 313 chairs are matched at twenty-five institutions, and the program has generated a total endowment corpus (including non-State match) of $378 million. Comprehensive reviews conducted in 1993, 1998 and 2009 led to significant strengthening of the program.

The program pairs a 60% private-sector contribution with a 40% Board of Regents match to endow a chair to be filled by an exemplary scholar. The Board endows chairs in any discipline in $1,000,000 increments: $1,000,000 total endowment ($600,000 match/$400,000 BoRSF); $2,000,000 total endowment ($1,200,000 match/$800,000 BoRSF); and $3,000,000 total endowment ($1,800,000 match/$1,200,000 BoRSF). Higher endowments are encouraged, generally established by combining existing matched Chairs or incremental requests for BoRSF match. Fifty-six (56) of the 313 chairs are matched at the $2,000,000 level, three (3) at $3,000,000, and one (1) at $4,000,000.

A policy creating “Special Provisions for Public Four-Year Campuses with Fewer than Three Eminent Scholars Chairs,” adopted in 2001, allowed public four-year institutions with fewer than three chairs to invert

the 60:40 ratio of private funds/BoRSF, but retained the principle of competition without favor. Through FY 2005-06, when the special provisions expired, nine chairs (three from Northwestern State University, two from Louisiana State University Shreveport, and one each from Grambling State University, Louisiana State University of Alexandria, Southern University and A&M College, and Southern University at New Orleans) were funded under its aegis. One additional inverse-ratio chair from Southern University at New Orleans was funded under special circumstances in FY 2006-07.

During the first years of the program's operation, chairs were matched on a "first-come, first-served" basis. This approach was replaced in 1993 by a competitive process to ensure that the highest-quality chairs with the greatest potential for impact are funded. The competition established to determine endowment awards is rigorous and highly selective. A panel of out-of-state experts reviews proposals on an annual basis, recommending for funding those most representative of and able to achieve the goals of the program. Stringent rules governing the selection of the faculty recipient are designed to ensure his or her excellence. An endowed chair must be filled through a national search and the committee conducting the search must include at least one individual recognized as an expert in the field of the chair but not affiliated with the institution, the private donor, or the Board of Regents. While a chair recipient may be selected from within the affected campus, this should occur infrequently and only when a national search has documented the national and/or international eminence of the prospective chairholder.

As the national search guarantees the past reputation of the chairholder, periodic performance reviews of the chairholder are intended to assure continued accomplishment. As verified by these reviews, chairholders are required to maintain highly productive records of scholarly and/or creative endeavor, exceptional teaching, recruitment and mentoring of high-quality students, leadership activities, and economic development activity.

As part of the restructuring of the Support Fund, the Board adopted a policy that, for all future competitions, requires that endowed chairs for which match is requested be aligned with the submitting campus's role, scope, mission, and strategic priorities. This practice will ensure that these highly influential chairs are established in the areas of greatest strength and/or greatest need on the campus.

Traditionally $3,220,000 has been budgeted annually for the Endowed Chairs category; severe funding constraints caused by sharp declines in Support Fund income required that the FY 2013-14 Endowed Chairs budget be reduced by 25%, to a level of $2,420,000. In FY 2014-15, given the number of vacant existing chairs and the significant backlog in requests for State match in the Endowed Professorships Subprogram, the budget for Endowed Chairs was reduced to $2,020,000. Though the traditional $3,220,000 budget was restored in FY 2015-16, continuing declines in Support Fund income again required a reduction in the FY 2016-17 budget level, to $2,020,000. To accommodate ongoing budget challenges and backlogs in Endowed Professorships, the budget level was further reduced in FY 2017-18, to $1,620,000. Persistent revenue shortfalls and Professorships demand resulted in an annual budget level of $1,220,000 in FY 2018-19 and FY 2019-20. Improved revenue forecasts for FY 2020-21 warranted an increase in the budget level to $2,020,000. A similar level is recommended for FY 2021-22, including $2,000,000 for endowment matching and $20,000 for competitive review.

5.3 RECRUITMENT OF SUPERIOR GRADUATE STUDENTS - $1,767,500

The Recruitment of Superior Graduate Students component has provided direct student support and endowment matching to select departments to attract and retain top-quality students to help seed excellence in

graduate programs. Through FY 2018-19, the Board of Regents funded 1,683 graduate fellowships to a spectrum of departments at sixteen institutions in Louisiana. More than 90% of all awards were made to science, technology, engineering, and mathematics programs and, in addition, about 10% of fellowships have been awarded to programs specifically targeting in-service K-12 teachers in mathematics and science disciplines pursuing master's degrees in education. Fellowships have clearly helped a large number of students to pursue graduate education, but each fellowship is expensive – over four years averaging $100,000 in BoRSF funding plus tuition waivers provided by the campus – and its impact is limited to the single student recipient.

In FY 2015-16, the Board established a subprogram to match endowments for Superior Graduate Student Scholarships. Such endowments will provide a permanent source of support affecting generations of students.

5.3.1 Traditional and BoR/SREB Graduate Fellowships

The Traditional Graduate Fellows (GF) Subprogram was created at the inception of the Graduate Fellows Program; the Board became a full participant in the Southern Regional Education Board (SREB)-State Doctoral Scholars Program in FY 2007-08 and, as a result, established the Board of Regents/SREB Graduate Fellowships to Promote Diversity Subprogram (BoR/SREB), adding it to the Graduate Fellows component. The Traditional Subprogram primarily supports excellent doctoral-level fellows, but also allows stipends for students in master's-level programs of distinction. The BoR/SREB Subprogram, a continuation of the Perkins Doctoral Fellows Program established in response to the Louisiana Consent Decree, offered successful colleges and universities fellowships to build diversity in the professoriate by recruiting, retaining, and graduating excellent underrepresented minority PhD candidates. The Traditional GF and BoR/SREB Subprograms provided opportunities for departments and universities across the State to receive assistance in the recruitment, training and support of high-quality graduate students. Given their expense and limited impact, the Board determined that graduate student support would be better provided through R&D and Enhancement awards with broader purpose and through permanently endowed scholarship funds, so the standalone fellowship subprograms were suspended for new awards beginning in FY 2017-18. In consideration of the structure of the program and the unfunded one-year recruitment year provided, an additional competition for Traditional Graduate Fellows went forward in FY 2016-17, with individual awards approved in April 2017; funds for these awards were incorporated into the FY 2016-17 Plan and Budget and represent prior commitments in the FY 2021-22 Plan and Budget. No new monies are included in the FY 2021-22 Plan and Budget.

The $757,500 budgeted for these Subprograms in FY 2021-22, therefore, is comprised entirely of fourth-year funding for graduate fellows who began their course of study in AY 2018-19.

5.3.2 Endowed Superior Graduate Student Scholarships

In September 2014, the Board of Regents approved establishment of the competitive BoRSF Endowed Superior Graduate Student Scholarships Subprogram, enabling campuses to enhance support for graduate and first professional degree students through permanent endowments which combine non-State contributions and Support Fund match. Endowed Superior Graduate Student Scholarships are established to assist departments, units, colleges, and/or campuses to recruit, retain, and graduate excellent graduate and first professional degree candidates as well as post-doctoral research fellows. Though all disciplines are eligible, priority is given to scholarships for students in a) high-demand professional master's, doctoral, and first professional degrees which

target Louisiana's workforce needs and b) professional experiential opportunities substantially related to those workforce needs.

The funding of an endowed graduate scholarship requires the eligible college or university to raise at least $60,000 from non-State sources, to be matched by $40,000 from the Support Fund, thus establishing a graduate scholarship endowment of $100,000 at minimum. Income from the permanent endowment must be used for direct benefit of the appointed student(s), to support scholarships and fellowships as well as professional development experiences including internships, externships, research and conference travel, and field work.

Based on the high demand for matching, the Endowed Superior Graduate Student Scholarships Subprogram is budgeted to receive $1,010,000 in FY 2021-22, including $1,000,000 for endowment matching and $10,000 for proposal review by external consultants.

5.4 CAREFULLY DEFINED RESEARCH EFFORTS - $5,371,047

Board of Regents Support Fund Research and Development subprograms have consistently been highly successful in positioning faculty for non-State research funding, promoting economic development, and bringing major scholarly and creative works to the marketplace. In addition to contributing to knowledge, understanding, and practical deployment of ideas, projects funded through these subprograms also bring a significant flow of federal and private-sector dollars to Louisiana in support of university-based research. A recent survey of completed projects indicated that the average return for one dollar of Support Fund research investment is approximately $10.50. Given the success of these initiatives and their significant benefits to the State, it is important to retain them with minimal changes.

A total of $3,071,047 is required during FY 2021-22 to honor prior commitments for multi-year projects in the BoRSF Research and Development (R&D) Program. Since most research projects are multi-year endeavors, the Board has historically been conservative in recommending an increase in funds dedicated for new research projects in the R&D Program.

5.4.1 Research Competitiveness Subprogram (RCS)

RCS is a stimulus initiative directed toward those researchers who are at the threshold of becoming competitive in the federal R&D marketplace. It is designed to assist these researchers to overcome the barriers that have prevented them from competing successfully at the national level for R&D funds. RCS is also focused only on those researchers who clearly show strong potential for enhancing their competitive status within the limited time span of a Board of Regents Support Fund grant. The one-year component of RCS emphasizes short-term seed funding to prepare research projects on the cusp of competitiveness for submission to and success in competitive federal programs. In every year since the Subprogram's inception, far more Louisiana university researchers who fit this funding profile have submitted quality research proposals to RCS than the Board has been able to support and encourage with funding.

Disciplines eligible to compete for research funds in RCS are restricted to the sciences and engineering (as defined by the National Science Foundation), agriculture, life sciences, and health and medical sciences. Most disciplines are eligible on a staggered, two-years-on, two-years-off cycle; however, three disciplines accorded the highest priority for economic development in Louisiana (biological, computer & information, and

earth & environmental sciences) are targeted for funding annually. The eligibility cycle for RCS, including rotating disciplines eligible in FY 2021-22, is specified in Schedule I.

SCHEDULE I: ELIGIBILITY OF DISCIPLINES* IN THE RESEARCH COMPETITIVENESS SUBPROGRAM (RCS)

GROUP I - ELIGIBLE EVERY YEAR

Biological Sciences
Computer & Information Sciences
Earth & Environmental Sciences

GROUP II - ELIGIBLE IN FYs 2022-23, 2023-24

Agricultural Sciences
Engineering A (Chemical, Civil, Electrical, etc.)
Mathematics
Physics & Astronomy
Social Sciences

GROUP III - ELIGIBLE IN FYs 2020-21, 2021-22, 2024-25

Chemistry
Engineering B (Industrial, Materials, Mechanical, etc.)
Health & Medical Sciences

*The listing of those sub-disciplines included in these larger groupings is in Attachment III.

Given the success of RCS in preparing faculty for competitiveness in the federal R&D marketplace, the Board has made every effort to fund this Subprogram at the highest possible level. The amount devoted to RCS for first-year awards was set at $1,500,000 in FY 1999-2000, a level maintained for several funding cycles. Beginning in FY 2006-07 and continuing through FY 2009-10, the amount budgeted for first-year awards was reduced to $1,350,000 to facilitate funding of the Post-Katrina Support Fund Initiative. The funding level was restored in FY 2010-11 to $1,500,000. Due to persistent declines in revenue in combination with lower projected income in the BoRSF, in FY 2011-12 and FY 2012-13 the funding level was again reduced to $1,350,000. Additional significant declines in revenue projections required that first-year funding for RCS be further reduced in FY 2013-14, to a level of $865,000. In FY 2014-15, lower levels of prior commitments and federal matching obligations allowed monies for first-year funding in RCS to be restored to $1,350,000; this budget level was maintained between FY 2015-16 and FY 2017-18. For FY 2018-19, due to continued declines in Support Fund revenues, the RCS first-year budget was again reduced, to $1,250,000. In FY 2019-20, based on decreased funds needed for prior commitments in Graduate Fellows programs, the first-year budget was increased to $1,300,000. In FY 2020-21, the budget was restored to $1,350,000, reflecting improved revenue forecasts. Due to current revenue uncertainties, a first-year budget of $1,250,000 is recommended in FY 2021-22, providing opportunities for both single-year and multi-year (up to three years) projects.

5.4.2 Industrial Ties Research Subprogram (ITRS)

The principal goal of ITRS is to fund research proposals which have significant near-term potential for contributing to the development and diversification of the Louisiana economy. Accordingly, all proposals and funded projects must demonstrate strong interest from and continued involvement of the private sector and/or non-State public agencies. Because ITRS also functions as a stimulus initiative, funded projects should either (a) bring about significant near-term federal or private-sector funding of research with commercial applications or (b) enhance or establish a Louisiana business or industry that will attract significant external revenues to the State. The Proof-of-Concept/Prototyping (PoC/P) Initiative, consolidated with ITRS in FY 2016-17, provides support for faculty developing products and ideas for the marketplace, enabling faculty who have completed the research phases of their investigations to pursue proof-of-concept work and prototype development to prepare products for testing and production.

To ensure that investments align as much as possible with State and higher education priorities, projects are encouraged chiefly in five priority areas identified by the Louisiana Department of Economic Development and higher education research leaders and adopted by the Board of Regents in 2015: Advanced Manufacturing and Materials, Clean Technology and Energy, Coastal and Water Management, Digital Media and Enterprise Software, and Life Sciences and Bioengineering. To ensure no opportunities with the potential to promote economic development and diversification are overlooked, the Board allows funding in other research areas, provided a persuasive, well-documented case is made in the proposal for a project's major contributions to the State, particularly related to economic development. Further, the Board continues to encourage university/industry initiatives through cooperation with the Governor's Economic Development Cabinet and with related entities such as the Louisiana Department of Economic Development. Through its Advisory Committee for the Advancement of Research in Louisiana (ACARL), the Board regularly reassesses research priority areas and needs related to economic development.

Though it has resulted in a number of projects with significant economic benefits (see Attachment II), ITRS has also presented some challenges. Louisiana's relatively undiversified industrial economy and dearth of large industrial-based corporations (only two Fortune 500 companies – CenturyLink and Entergy – and relatively few industries with substantial in-state capacity for R&D spending) have made it difficult for university faculty to foster meaningful partnerships with State-based industries. The Board significantly reduced the funding level for ITRS to reflect this reality; the amount available for first-year funding of this component was set at $650,000 for several years. To make funds available for the Post-Katrina Support Fund Initiative, the amount was further reduced by 10%, to a first-year level of $585,000, for FY 2006-07 through FY 2009-10. The funding level was restored to $650,000 in FY 2010-11. In FY 2011-12, the funding level was again reduced by 10%, to $585,000, to accommodate lower projected income in the BoRSF; this funding level was retained in FY 2012-13. Continued declines in revenue projections required that first-year funding for ITRS be further reduced in FY 2013-14, to a level of $375,000. In FY 2014-15, due to decreases in prior commitments and federal matching obligations, monies for first-year funding in ITRS were restored to $585,000; this budget level was maintained in FY 2015-16 for the traditional ITRS component.

The Opportunities for Partnerships in Technology with Industry (OPT-In) program, established in FY 2011-12 by Louisiana EPSCoR as part of its NSF Track 1 award, provided industrial partnership awards similar in focus to ITRS, but more limited in scope and duration, as well as funds for proof-of-concept and prototype development. During its years of operation through EPSCoR, OPT-In funded 41 projects with an annual allocation of $350,000 from the Support Fund match to the Track 1 award. Now the Proof-of-

Concept/Prototyping (PoC/P) Initiative and directly funded through the BoRSF, this ITRS component exclusively targets products and ideas which are near to commercialization or transfer to the marketplace.

In FY 2016-17, the activities and objectives of ITRS and PoC/P were consolidated to ensure both innovation and partnership continue to be supported; in FY 2017-18, the consolidated budget was set at $800,000 to reflect an anticipated increase in demand for research funding directly related to economic development. This consolidated approach was retained in FY 2018-19, though budget constraints and flat demand required a reduction of first-year funding to $750,000; this budget level of $750,000 was retained in FY 2019-20. A year-one budget level of $800,000 was recommended for FY 2020-21, reflecting the relative importance of supporting research with near-term economic benefits to Louisiana. Due to revenue uncertainties, a year-one budget of $700,000 is recommended in FY 2021-22.

5.4.3 Awards to Louisiana Artists and Scholars (ATLAS) Subprogram

The ATLAS Subprogram provides support for major scholarly and artistic productions with potential to have a broad impact on a regional and/or national level. ATLAS awards facilitate completion of manuscripts for publication and/or mounting of creative productions including recordings, performances, and gallery shows. The Subprogram allows the State to profit from its rich cultural traditions and makes Louisiana faculty members' expertise and creativity in these disciplines well known both nationally and internationally.

ATLAS, modeled after the internationally famous John Simon Guggenheim Memorial Foundation Fellowships, was inaugurated at a funding level of $500,000 in FY 2004-05. The funding level for this Subprogram remained at $500,000 for FY 2005-06, but was reduced to $450,000 in FY 2006-07 and subsequent years in order to make funds available for the Post-Katrina Support Fund Initiative. The funding level was restored to $500,000 in FY 2010-11. In FY 2011-12, given lower projected income in the BoRSF, the funding level was again reduced by 10%, to $450,000, a level retained in FY 2012-13. ATLAS funds were further reduced in FY 2013-14, to a level of $285,000, to accommodate additional substantial declines in projected Support Fund income. In FY 2014-15, due to decreases in prior commitments and federal matching obligations, monies for first-year funding in ATLAS were restored to $450,000 and maintained in FY 2015-16. Given ongoing Support Fund revenue declines, in FY 2016-17, the budget was reduced to $350,000 and then to $330,000 in FY 2017-18. Continuing fiscal stresses led to a further reduction, to $300,000, in FY 2018-19. In FY 2019-20, based on extremely high demand and project quality, a budget of $350,000 was adopted. Further gains in projected revenues along with continued demand and project quality led to a budget of $375,000 in first-year funds for FY 2020-21. For FY 2021-22, with reductions in revenue projections, a budget of $350,000 is recommended.

5.4.4 Summary of FY 2021-22 Research and Development Allocations

Prior Commitments (RCS and ITRS only):		$3,071,047
New Awards:	RCS	$1,250,000
	ITRS	$ 700,000
	ATLAS	$ 350,000
R&D PROGRAM TOTAL		**$5,371,047**

5.5 ENHANCEMENT OF THE QUALITY OF DEPARTMENTS OR UNITS - $10,243,084

NOTE: Matching commitments for all Federal Matching Grants Subprogram proposals are accommodated through the Enhancement Program. The Board has elected to operate in this manner due to (a) the uncertainty of a proposal's potential success in the national competition for federal funds; (b) the difficulty and uncertainty surrounding moving money from one BoRSF program budget to another, once budgeted in the prior year's appropriation process; and (c) the fact that all projects of this nature contain elements, in varying degrees, that enhance academic departments and units at colleges and universities.

After weighing interrelations among the four components of the Support Fund, the Board has concluded that enhancement of the instructional and research infrastructure of academic, research, and agricultural departments and units, the entities leading higher education's core mission, remains a fundamental need, essential to accomplishing goals of the other three BoRSF components and the BoRSF as a whole. For this reason, the Board shall dedicate $10,243,084 to the Enhancement Program in FY 2021-22. Thus, approximately 53% of the total program funds available in FY 2021-22 have been dedicated to this component. This reflects the Board's strong commitment to Enhancement, which provides opportunities to support high-priority academic activities for all Support Fund-eligible colleges and universities in the State.

Approximately $4,105,662 of the $10,243,084 budgeted for Enhancement awards in FY 2021-22 will be required to honor prior commitments for multi-year projects and new and prior-year matching for federal projects. Of this amount, $2,180,662 has been budgeted for multi-year projects funded in prior competitive cycles under the Departmental Enhancement Subprogram. In addition, a total of $1,925,000 is required to meet the State's matching commitments in current and pending federal programs (see Section 5.5.1).

After deducting these projected commitments for multi-year Enhancement projects and the prior and projected obligations for federal matching opportunities, $6,137,422 will be available for new Enhancement projects submitted for funding consideration in FY 2021-22. Maintenance of the highest possible budgetary allocations to the Enhancement subprograms is particularly important because: (a) Enhancement subprograms build infrastructure at higher education institutions, which is critical to the success of the other three Support Fund programs; and (b) all higher education institutions are eligible to compete and the majority of campuses most successfully compete in Enhancement subprograms. Enhancement is the only component of the Support Fund through which every eligible campus type has received funding. Reflecting need, demand, and breadth of access to funding, then, 60% of the total funds available for new awards will be dedicated to Enhancement subprograms. (See Table II, "An Overview of FY 2021-22 Budgetary Allocations by Program Component" in Section 6 of this Plan and Budget.)

5.5.1 Federal Matching

Federal matching leverages Support Fund monies to compete for funds from federal research programs, particularly through the Established (formerly Experimental) Program to Stimulate Competitive Research (EPSCoR), an initiative to address disparities in provision of federal research funding across states. The Board has also matched Enhancement monies to obtain federal grants that implement and sustain statewide education reform efforts. Between 1987 and 2019, federal programs awarded more than $257 million to joint federal/State initiatives, for which the BoRSF provided match of approximately $91 million. Budget levels for federal

matching are determined by known demand – upcoming regular federal competitions and program policies and regulations defining what must and may be matched by the State.

A total of $1,925,000 has been pledged as the State's matching commitment for federal awards in FY 2021-22, including: (a) $800,000 for the second year of the NSF Research Infrastructure Improvement (RII) Track 1 project; (b) $250,000 for the third year of the NASA EPSCoR Research 13 project; (c) $250,000 for the second year of the NASA EPSCoR Research 14 project; (d) $250,000 for the first year of the NASA EPSCoR Research 15 project; (e) $250,000 for the second year of NASA LaSPACE; and (f) $125,000 for the third year of the NASA EPSCoR Research Infrastructure Development project.

5.5.2 Endowed Professorships

The Endowed Professorships Subprogram, established to provide supplementary support for superior faculty at any level, was established in 1990-91 and first funded in FY 1991-92. The funding of an endowed professorship requires the college or university to raise funds from non-State sources, to be matched by the BoRSF at a defined ratio, thus creating an endowed professorship valued at a minimum of $100,000.

Following the Subprogram's initial implementation the Board became concerned that too many eligible campuses were not reaping its benefits. One manifestation of this concern appeared in the FY 1995-96 Plan and Budget, when the Board first allowed campuses to use federal funds as the matching source for one endowed professorship per year. The Board also encouraged campuses to maximize efforts to attain matching funds for endowments from private philanthropic sources. Almost all Support Fund-eligible campuses now hold at least one matched Endowed Professorship.

Though campuses are informed of total available matching dollars and limited per-campus funding guarantees, the Board of Regents annually receives more requests for matching than can be provided with available funds. Measured against pressing financial needs throughout higher education, every component of the Support Fund is severely underfunded. Consequently, each dollar used to fund endowments means that fewer dollars are available for critical, immediate needs elsewhere. In FY 2010-11 and in several previous years, the Board funded the Endowed Professorships Subprogram at a level of $2,680,000, sufficient to endow two $40,000 professorships at each four-year and special purpose campus and one $40,000 professorship at each two-year campus. In most years eligible campuses with excess submissions were able to receive more than two professorships when slots were unclaimed. In addition, in FY 1995-96 and numerous subsequent years, the Legislature approved special appropriations to fund unmatched professorships.

Given changes in the markets over the past decade, which have led to limited returns on these smaller endowments, along with critical needs throughout the higher education community and steady declines in Support Fund income, the Board reduced funding for the Endowed Professorships Subprogram during FY 2011-12 to the level of $1,560,000, an amount equivalent to one slot per eligible campus, though available monies were sufficient to continue matching two slots per four-year campus based on requests for match. The level of one $40,000 match per four-year and two-year campus was retained in FY 2012-13, though the funding amount was increased to $1,600,000 to accommodate the addition of Northshore Technical Community College as a Support Fund-eligible institution and the Board continued to maintain its matching of two guaranteed slots. Also in FY 2012-13, the Treasury realized an additional $5,000,000 in revenue, which the Board dedicated entirely to matching a portion of the Endowed Professorships backlog, to fund an additional 125 $40,000 slots. The funding level of $1,600,000 was maintained in FY 2013-14, while the Board continued to identify

mechanisms to fund the remaining backlog. To help address the challenge, the Subprogram was funded at a level of $2,800,000 in FY 2014-15. With backlogs cleared at all but one campus, the previous budget level of $1,600,000 was restored in FY 2015-16. To accommodate additional campuses eligible for Professorships matching, the budget level was increased to $2,000,000 in FY 2016-17.

As part of the restructuring of the Support Fund in 2016, Endowed Professorships' history and performance were assessed, as was the Subprogram's continued viability as the Support Fund's expendable earnings continue to decline even while demand for matching dollars increases. The Board of Regents determined that the ratio of non-State contributions to public match should increase to 4:1 ($80,000 non-State contribution matched with $20,000 BoRSF) to enable matching of more slots, continuation of the non-competitive distribution of available monies, and retention of a funding guarantee of two slots per eligible campus per year. The Board shall annually assess the impact of this change and make adjustments as necessary.

In addition to the need for $1,680,000 in matching dollars to fund at a rate of two $20,000 slots per eligible campus, the FY 2017-18 Endowed Professorships budget of $3,000,000 provided funds to continue matching an existing backlog of $40,000 slots, dating to 2012. All remaining backlogged slots were matched in FY 2017-18, though campuses continue to submit more requests than the Support Fund can match with available resources.

Also as a result of restructuring and severe revenue declines, in 2016 the Board of Regents approved suspension of the Endowed First-Generation Undergraduate Scholarships Subprogram, which had been operational since 2007 but had consistently attracted very limited donor support (see Section 5.5.4). Based on widespread need across higher education for support for this student population, as well as donor interest in assisting the State to serve these students, in 2019-20 this matching opportunity was restored as a component and within the budget of Endowed Professorships. If a campus wishes to solicit donations for first-generation scholarships, it may do so as part of its guarantee of two $20,000 matches in Professorships.

A total of $2,000,000 was budgeted in FY 2019-20 and FY 2020-21 for both new and previously submitted requests; a similar amount is budgeted in FY 2021-22. Any unclaimed funds from new guaranteed slots shall be distributed equally among campuses with slots awaiting match. No funding will be specifically set aside for First-Generation Scholarships, but matching will be determined by campus assessments of their priorities and preferences, as reflected in the rank-order list of all Endowed Professorship and First-Generation Scholarship match requests submitted during the funding cycle.

5.5.3 BoRSF Endowed Two-Year Student Workforce Scholarships

The Board's commitment to improvement of educational quality at all academic levels and in all disciplines drove the establishment, in FY 2002-03, of the Enhancement Subprogram for Two-Year Institutions. The Subprogram, open to all community and community technical colleges as well as the Louisiana Community and Technical College System, provided enhancements for academic and student access and success activities supporting the joint missions of two-year campuses to provide general academic preparation for postsecondary programs and workforce training to meet local and regional needs. During the Subprogram's operation, a competitive peer-review process was used to assess and prioritize proposals for funding.

In December 2014 the Board of Regents approved a new direction for Support Fund monies targeted to community and community technical campuses, to better align funding with a focus on Louisiana's low

attainment rate and critical workforce shortages in four- and five-star job areas. The Board established the competitive Endowed Two-Year Student Workforce Scholarships Subprogram, enabling two-year campuses to provide academic and training support for students enrolled in degree and certificate programs related to these workforce needs. Since the program's inception, 107 scholarship funds have been matched at 13 eligible campuses.

Funding for the first year of the BoRSF Endowed Two-Year Student Workforce Scholarships Subprogram was $1,100,000. In FY 2016-17, reflecting reductions across the Support Fund and limited demand in the Subprogram's first year, the budget level was reduced to $800,000. Given persistent declines in Support Fund revenues, along with increased demand for backlog matching in Endowed Professorships, the budget level was further reduced in FY 2017-18, to $650,000; demand below this level in the 2017-18 competition led to an annual budget level of $600,000 for FY 2018-19 and 2019-20. In consideration of the importance of workforce training, the FY 2020-21 budget level was set at $780,000; a total of $1,000,000 is recommended in FY 2021-22 to support the efforts to ensure Louisiana and her citizens prosper by earning credentials necessary for a well-paying, stable job.

5.5.4 Endowed Undergraduate Scholarships for First-Generation College Students

The State faces a well-documented crisis in terms of educating its future workforce. According to statistics provided by the National Center for Higher Education Management Systems (NCHEMS), for every 100 public school students entering the ninth grade this fall only about 78 will graduate from high school four years hence. Forty-five will enter college immediately after graduation, and a meager 18 of these will earn a degree or certificate within 150% of the standard time to completion. Research indicates that this massive "pipeline leakage" is due primarily to socioeconomic factors. Many worthy Louisiana students are now effectively denied the opportunity for a postsecondary education due to many factors: need-based aid is severely limited, assistance provided under the merit-based Taylor Opportunity Program for Students (TOPS) is not sufficient to make college affordable for them, and students approach but fall short of satisfying all of the requirements necessary to qualify for TOPS.

In FY 2007-08, the Board implemented a merit- and need-based subprogram to help address this funding gap. To be eligible, students must be Louisiana residents who are "first-generation" college students (i.e., neither parent has earned a postsecondary credential), have been awarded the federal Pell Grant or otherwise document unmet financial need, and have been admitted to the institution awarding the scholarship. Each four-year institution was guaranteed one $40,000 endowed scholarship match annually to a private/institutional contribution of $60,000. Each two-year institution was guaranteed one $20,000 endowed scholarship match annually to a private/institutional contribution of $30,000. Proceeds established/enhanced a permanent endowed scholarship fund. Interest earnings from the fund(s) are awarded at the discretion of the institution to eligible students and may be divided among multiple recipients, provided that each student receives at least $1,000 per year in scholarship funds through the endowment. In addition to scholarship proceeds, institutions must provide student recipients with structured support through active and engaged advising, as well as meaningful campus employment of at least ten hours per week over and above the scholarship.

As part of the restructuring of the Support Fund, the First-Generation Scholarships Subprogram was carefully assessed. It was determined that the Subprogram's ability to address defined goals is limited, due to the targeting of funds to individual students and the minimal amounts of earnings available for award to students. The Board suspended the Subprogram while retaining opportunities for campuses to target Support

Funds to high-need students through the Departmental Enhancement Subprogram, and received a total of $1,320,000 in match requests by the June 30, 2017 Subprogram suspension date. Accordingly, in FY 2017-18 a total of $380,000 was budgeted to help clear backlogged applications; an additional $320,000 was budgeted in FY 2018-19. All remaining slots awaiting match were cleared in FY 2019-20. Because different campuses have different missions and priorities, and first-generation student populations are extremely important to Louisiana's educational attainment and future, an opportunity to pursue new matches for first-generation scholarships was reintroduced as a component of the Endowed Professorships program in FY 2019-20, and it continues to be funded within that program's budget (see Section 5.5.2).

5.5.5 Departmental Enhancement

Since 1987, competitive grants programs in Enhancement, including Traditional, Undergraduate, and Two-Year Campus opportunities, have been instrumental in maintaining and developing the capacities and quality of academic, research, and agricultural departments and units, providing funding for acquisition of instructional and research equipment as well as a broad array of curriculum revision projects, academic success initiatives, service learning projects, and colloquia presented by outstanding out-of-state scholars.

Throughout the history of Enhancement grant competitions, proposals have been developed and submitted by individual investigators and groups of faculty, and generally have reflected the ideas of the proposal developers rather than a holistic assessment of the needs and direction(s) of a department, unit, center, or other larger academic group on the campus. While this approach has yielded good results and hundreds of highly successful projects, it does not enable and encourage strategic thinking on the part of the larger department or unit as to what investments will propel it forward in directions of value to the students, faculty, campus, State, private industry, and/or other stakeholders.

In addition, a founding principle of Enhancement has been support for all disciplines at all levels, which has yielded a very broad distribution of funds without consideration of the roles, scopes, missions, and priorities of submitting campuses. As Support Fund revenues continue to shrink, the broad but shallow approach of providing support across all areas limits the impact that funds can have in the areas of greatest need and emphasis for the campuses, systems, and State.

These considerations led the Board to modify Traditional Enhancement, to create a Departmental Enhancement Subprogram, with funding to be aligned with campus roles, scopes, missions, and priorities. In this new approach, a formally constituted academic, research, or agricultural organizational unit must develop proposals based on its strategic needs, potential for future enhancement or growth, alignment of activities with broader goals and priorities of the campus, and projected impact. Three types of proposals, defined by the proposed impact of the investment – primarily educational, primarily workforce, and primarily research – are solicited, with the expectation that many projects will seek to combine all three types in a single project to launch the department forward in a holistic way. Opportunities are available for both large-scale, multi-year projects (two to five years) and one-year awards to target one or more specific needs, as well as supplementary support for doctoral students participating in the SREB Doctoral Scholars Program (DSP).

After deducting all previous and projected commitments for other components of the Enhancement Program, $3,137,422 remains for the first year of projects submitted in the FY 2021-22 competition of the Departmental Enhancement Subprogram, including the Multidisciplinary component (see Section 4.3). This amount may increase from the Plan and Budget as submitted if allocated money is not fully expended in one of

the other Enhancement Program components.

Though applicants will be required to demonstrate the alignment of projects with campus role, scope, mission, and priorities, the wide variety of campuses and priorities across the State and demand in previous competitions indicate that opportunities must still be provided across all academic disciplines on a rotating basis. Schedule II indicates the current discipline eligibility cycle for Departmental Enhancement; this cycle may be revisited as higher education priorities, demand, and need are revised and refined.

SCHEDULE II: ELIGIBILITY OF DISCIPLINES* IN THE DEPARTMENTAL ENHANCEMENT SUBPROGRAM

CYCLE I – ELIGIBLE IN FYs 2019-20, 2021-22

Engineering B (Industrial, Materials Mechanical)
Biological Sciences
Health and Medical Sciences
Physics
Social Sciences
Humanities
Agricultural Sciences
Astronomy
Targeted Workforce (Programs leading directly to Louisiana jobs)

CYCLE II – ELIGIBLE IN FYs 2020-21, 2022-23

Engineering A (Chemical, Civil, Electrical)
Chemistry
Computer and Information Sciences
Business
Education
Earth and Environmental Sciences
Arts
Mathematics
Targeted Workforce (Programs leading directly to Louisiana jobs)

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* Attachment III provides a listing of sub-disciplines included in these larger groupings.

5.5.6 Summary of FY 2021-22 Enhancement Allocations

Prior Commitments:	Departmental Enhancement	$ 2,180,662
	Federal Matching Grants	$ 1,675,000
New Awards:	Federal Matching Grants	$ 250,000
	Endowed Professorships	$ 2,000,000
	Endowed Two-Year Workforce Scholarships	$ 1,000,000
	Departmental Enhancement	$ 3,137,422
ENHANCEMENT PROGRAM TOTAL		**$10,243,084**

5.6 ADMINISTRATIVE EXPENSES - $598,369

Act 675 of 1989 established the following restrictions with respect to the amount of Support Fund money that may be used to administer BoRSF programs:

> No more than 3% of the annual total amount appropriated to each board or eight hundred thousand dollars, whichever is smaller, shall be appropriated for such purposes to each board, subject to a thorough review with the goal of limiting such costs to those necessary and proper…

This legislation was modified by Act 698 of 2001, which specifies:

> Costs attributable to the Board of Regents for use of external peer-review consultants for purposes of review, evaluation, and assessment of program proposals are recognized as costs appropriately borne by the respective Support Fund programs and shall be paid from the category of expenditure related to the program for which the review, evaluation, and assessment applies.

Act 703 of 2006 further allows the Board of Regents Support Fund administrative budget to be determined by formula:

> No more than three percent of the average annual amount of actual expenditures…for the most recent three previous fiscal years for which actual expenditures are available shall be appropriated for such [administrative] purposes.

This formula yields an actual amount of $598,369 to be expended in this category during FY 2021-22.

Each program component whose expenditures are itemized in sections 5.2 through 5.5 of this Plan and Budget will incur expenditures for professional services of out-of-state consultants, estimated as follows:

Endowed Chairs for Eminent Scholars	$ 20,000
Research and Development	$135,000
Enhancement	$ 85,000
Recruitment of Superior Graduate Students	$ 10,000

The amounts estimated above will be deducted from the total amounts available for expenditure in respective program components. Estimated consultant costs for the Endowed Chairs for Eminent Scholars Program and Endowed Superior Graduate Student Scholarships (Recruitment of Superior Graduate Students component) are added to the regular allocation to preserve the matching units necessary for the endowments.

6. AN OVERVIEW OF FY 2021-22 BUDGETARY ALLOCATIONS BY PROGRAM COMPONENT

Table II provides an overview of FY 2021-22 Board of Regents Support Fund budgetary allocations for new projects and previous commitments.

TABLE II

AN OVERVIEW OF FY 2021-22 BUDGETARY ALLOCATIONS BY PROGRAM COMPONENT			
	TOTAL SUPPORT FUND ALLOCATION	**ALLOCATION FOR NEW PROJECTS**	**ALLOCATION FOR PRIOR COMMITMENTS**
ENDOWED CHAIRS	$ 2,020,000	$ 2,020,000	$ 0
GRADUATE FELLOWS	$ 1,767,500	$ 1,010,000	$ 757,500
RESEARCH & DEVELOPMENT	$ 5,371,047	$ 2,300,000	$ 3,071,047
ENHANCEMENT*	$10,243,084	$ 6,387,422	$ 3,855,662
SUBTOTALS	$19,401,631	$11,717,422	$ 7,684,209
ADMIN. COSTS	$ 598,369		
GRAND TOTAL	**$20,000,000**		

*Enhancement figures include funds used for Federal Matching Grants opportunities. The total for new projects in Enhancement further does not include $150,000 for BoR/SREB Doctoral Support awards because awards approved in FY 2021-22 will be funded out of the FY 2022-23 budget and included in that budget as prior commitments. All previously approved BoR/SREB Doctoral Support awards are budgeted as prior commitments in Departmental Enhancement.

ATTACHMENT I

FUNDED PROPOSALS: JOINT FEDERAL/STATE PROGRAMS WITH STATEWIDE IMPACT

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
NSF/LaSER: The Louisiana EPSCoR Program	FY1989-90 – FY1992-93	STI-8820219	NSF	3 years	$1,945,312	$3,374,355
Participating Institutions: A significant number statewide; grant funds awarded on a competitive basis. **Description/Purpose:** 1) To increase the competitiveness of Louisiana scientists and engineers in the Federal R & D marketplace, 2) to effect permanent improvements in the quality of science and engineering in Louisiana, 3) to develop human resources in Louisiana in the sciences and in engineering, and 4) to ensure that improvements achieved continue with State and/or private support beyond the end of the grant period.						
NSF LaSER Advanced Development Proposal (ADP)	FY1991-92 – FY1994-95	EHR-9108765	NSF	3 years	$3,700,000	$4,800,000
Participating Institutions: A significant number statewide, organized into research clusters; grant funds awarded on a competitive basis. **Description/Purpose:** 1) To increase the competitiveness of Louisiana scientists and engineers in the Federal R & D marketplace, 2) to effect permanent improvements in the quality of science and engineering in Louisiana, 3) to develop human resources in Louisiana in the sciences and in engineering, and 4) to ensure that improvements achieved continue with State and/or private support beyond the end of the grant period.						
Louisiana Systemic Initiatives Program (LaSIP) in Math and Science Education	FY1991-92 – FY1995-96	TPE-9150043	NSF	5 years	$10,000,000	$10,000,000 ($5 million each from Regents and BESE)
Participating Institutions: A significant number statewide; grant funds awarded on a competitive basis. **Description/Purpose:** To reform statewide – from kindergarten through college – methods of instruction and learning in mathematics, science, and engineering education.						
NASA Training Grant (LaSPACE)	FY1991-92 – FY1995-96	NGT-40039	NASA	4 years	$600,000	$500,000 (NASA and BOR portions awarded directly to LSU)
Participating Institutions: A consortium of sixteen campuses; grant funds awarded on a competitive basis. **Description/Purpose:** To develop the infrastructure for aerospace research to competitive levels, while improving the quality of aerospace research and education.						
Louisiana Collaborative for Excellence in the Preparation of Teachers (LaCEPT) Program	FY1992-93 – FY1996-97	DUE-9255761	NSF	5 years	$4,000,000	$2,500,000
Participating Institutions: Centenary, Grambling, LSU A&M, LSU-S, LA Tech, Loyola, McNeese, Nicholls, ULM, NSU, SLU, SUBR, SUNO, ULL, UNO, Xavier **Description/Purpose:** To improve the quality of undergraduate teacher preparation programs in mathematics and science and to increase substantially the number of mathematics and science educators.						
U.S. Department of Energy/EPSCoR Program	FY1993-94 – FY1994-95	DE-FC02-91ER75669	DOE	2 years	$1,039,590	$1,039,590
Participating Institutions: Grambling LA Tech, LSU A&M, Loyola, McNeese, SUBR, Tulane, ULL, ULM, UNO, Xavier **Description/Purpose:** To develop the infrastructure for energy and energy-related research in Louisiana, while improving the quality of energy research and education in the State and encouraging human resource development in this area. This proposal was the result of a one-year $99,454 planning grant awarded to the Board by DOE.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
Defense Experimental Program to Stimulate Competitive Research (DEPSCoR) Planning Program	FY1993-94	DAAH04-93-G-0466	DOD	1 year	$50,000	$25,000
Participating Institutions: A significant number statewide **Description/Purpose:** To prepare a statewide plan for increasing the State's capacity to perform defense-related research and technology transfer.						
1993 DEPSCoR Implementation Program	FY1994-95 – FY1996-97	Grant Numbers vary	DOD	3 years	$2,400,000	$500,000
Participating Institutions: Dillard, Grambling, LSU A&M, LSUHSC-NO, SUBR, SUNO, Tulane, ULM, UNO, Xavier **Description/Purpose:** To conduct research and educate scientists and engineers in Louisiana in areas important to national defense.						
NASA EPSCoR Program	FY1994-95 – FY1996-97	NCCW-0059	NASA	3 years	$1,500,000	$1,500,000
Participating Institutions: Dillard, LA Tech, LSU A&M, LSU Ag, LUMCON, McNeese, SUBR, Tulane, UNO, Xavier **Description/Purpose:** 1) To improve the infrastructure for aerospace-related research and education in Louisiana, and increase the State's capability to perform federally-funded aerospace research; and 2) to support three multi-institutional research cluster projects.						
NSF Teaching Scholars Program	FY1994-95 – FY1998-99	DUE-9255761 (Supplement)	NSF	5 years	$500,000	$250,000
Participating Institutions: Centenary, LA Tech, Loyola, Nicholls, SLU, SUBR, SUNO, ULL, ULM, UNO, Xavier **Description/Purpose:** To increase the number of minority teachers by providing a financial supplement to the Teaching Scholars program for Historically Black Colleges and Universities (HBCUs).						
NSF/EPSCoR LaSER Systemic Improvement Program (SI)	FY1995-96 – FY1997-98	OSR-9550481	NSF	3 years	$4,400,000	$3,000,000
Participating Institutions: Grambling LA Tech, LSUHSC-S, LSU A&M, Loyola, SUBR, SUNO, Tulane, ULL, UNO, Xavier **Description/Purpose:** 1) To stimulate systemic and sustainable improvements in the science and technology enterprise by creating centers of research excellence in the State, improving the infrastructure for scientific and engineering research and education in Louisiana, and enhancing human resources development in the sciences and engineering, thereby increasing the State's capability to perform federally-funded research of economic importance to Louisiana; and 2) to create real and meaningful research linkages between the State's Historically Black and Majority White Campuses and Universities through Joint Faculty Appointments. This proposal continued the efforts begun under the EPSCoR ADP award described above.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
Building Research Partnerships with Audio/Video Conferencing Facilities	FY1996-97 – FY1998-99	EPS-9632665	NSF	2 years	$494,198	$0
Participating Institutions: LA Tech, LSU A&M, LSU Ag, LSUHSC-NO, NSU, SLU, SUBR, Tulane, ULL, ULM, UNO **Description/Purpose:** To promote research partnerships by establishing an inter-institutional audio/video (A/V) research communications network across Louisiana. The A/V network will enhance collaborative exchanges within and among the State's EPSCoR and EPSCoR associated schools and to promote new research partnerships by eliminating geographical (distance/separation) barriers.						
LaSERnet II Backbone for Institutions of Higher Education in Louisiana	FY1997-98 – FY1999-00	EPS-9720147	NSF	2 years	$552,893	$0
Participating Institutions: LA Tech, LSU A&M, LSUHSC-S, LSUHSC-NO, SLU, SUBR, Tulane, ULL, ULM, UNO **Description/Purpose:** To provide researchers in the State with a high-speed intra-state backbone for sharing resources and access to broad-band (Internet II) service and direct vBNS (very Broadband Network Service) connectivity.						
U.S. Department of Energy/EPSCoR Program Renewal	FY1995-96 – FY1998-99	DE-FC02-91ER75669	DOE	4 years	$3,473,402	$3,200,000
Participating Institutions: Grambling LA Tech, LSU A&M, Loyola, McNeese, SUBR, Tulane, ULL, ULM, UNO, Xavier **Description/Purpose:** 1) To increase research competitiveness and capabilities of Louisiana scientists and engineers in areas of importance to the State and the U.S. Department of Energy; 2) to educate and recruit individuals, especially minorities and women, to work in these areas in Louisiana; 3) to provide new technologies that lead to economic development in the State; and 4) to support three multi-institutional research cluster projects.						
Louis Stokes Louisiana Alliance for Minority Participation (LS-LAMP) Program	FY1995-96 – FY1999-00	HRD-9550765	NSF	5 years	$5,944,914	$2,249,280
Participating Institutions: Dillard, Grambling, LUMCON, LSU A&M, McNeese, Nunez, SUBR, SUNO, SUSBO, Tulane, ULL, UNO **Description/Purpose:** To increase the number of underrepresented minorities receiving B.S. degrees in science, engineering, and mathematics in Louisiana from the baseline rate of 610 annually to an annual rate of 1,110.						
NASA LaSPACE Renewal Program	FY1996-97 – FY1999-00	NGT-40039	NASA	4 years	$600,000	$400,000 (NASA and BOR portions awarded directly to LSU)
Participating Institutions: A consortium of sixteen campuses; grant funds awarded on a competitive basis **Description/Purpose:** To continue the development of the infrastructure for aerospace research to competitive levels, while improving the quality of aerospace research and education.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
Louisiana Systemic Initiatives Program (LaSIP) Renewal in Math and Science Education	FY1996-97 – FY2000-01	ESR-9634088	NSF	5 years	$7,000,000	$10,000,000 ($5 million each from Regents and BESE)
Participating Institutions: A significant number statewide; grant funds awarded on a competitive basis. **Description/Purpose:** To continue the education reform efforts begun under the original LaSIP program.						
1995 DEPSCoR Implementation Program	FY1996-97 – FY1998-99	Grant Numbers vary	DOD	3 years	$2,350,303	$1,500,000
Participating Institutions: LSU A&M, LSUHSC-NO, SLU, Tulane **Description/Purpose:** To continue previous efforts to conduct research and educate scientists and engineers in Louisiana in areas important to national defense, thus improving the State's research infrastructure.						
NASA EPSCoR Program Renewal (2 years)	FY1997-98 – FY1998-99	NCC5-167	NASA	2 years	$1,000,000	$1,000,000
Participating Institutions: Dillard, LA Tech, LSU A&M, LSU Ag, LUMCON, McNeese, SUBR, Tulane, UNO, Xavier **Description/Purpose:** A renewal program to 1) continue to improve the infrastructure for aerospace-related research and education in Louisiana, and increase the State's capability to perform federally-funded aerospace research; and 2) to continue the support of three multi-institutional research cluster projects.						
Delta Rural Systemic Initiative in Science, Mathematics, and Technology	FY1997-98 – FY2001-02	ESR-9700041	NSF	5 years	$10,000,000 ($2.46 million is Louisiana's share)	$2,000,000 (divided equally between BOR and BESE)
Participating Institutions: A significant number; all campuses are eligible to compete. **Description/Purpose:** To complement and supplement current statewide math and science education reform initiatives such as LaSIP and LaCEPT. A tri-state effort involving Louisiana, Mississippi, and Arkansas, it concentrates on professional development programs for teachers, pre-service enhancement programs for educators, leadership institutes for administrators, and acquisition of supportive hardware and software in an effort to impact 64 counties and/or parishes (22 school districts in 21 parishes within Louisiana) that are rural and have major economic problems.						
Louisiana Collaborative for Excellence in the Preparation of Teachers (LaCEPT) Program Supplemental Award	FY1998-99 – FY2000-01	DUE-9816194	NSF	3 years	$600,000	$300,000
Participating Institutions: Grambling, LSU A&M, LSU-S, LA Tech, Loyola, Nicholls, NSU, SLCC, SLU, SUBR, SUNO, ULL ULM, UNO, Xavier **Description/Purpose:** To improve the quality of undergraduate teacher preparation programs in mathematics and science and to increase substantially the number of mathematics and science educators; to evaluate the effectiveness of the initial five-year award (FYs 1993-98).						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
1997 DEPSCoR Implementation Program	FY1997-98 – FY1999-00	Grant numbers vary	DOD	3 years	$1,770,504	$750,000
Participating Institutions: LSU A&M, Tulane, ULL **Description/Purpose:** To continue previous efforts to conduct research and educate scientists and engineers in Louisiana in areas important to national defense, thus improving the State's research infrastructure.						
NSF/EPSCoR New Cooperative Agreement (NCA)s	FY1998-99 – FY2000-01	EPS-9720652	NSF	3 years	$3,000,000	$3,000,000
Participating Institutions: A significant number statewide; grant funds awarded on a competitive basis. **Description/Purpose:** 1) To enhance the competitiveness of science and engineering (S&E) faculty of the State's higher education institutions by making them more competitive in gaining national research and development support, engaging them in science and technology transfer activities with business and industry, and helping them educate effectively large numbers of S&E students at both graduate and undergraduate levels; 2) to create real and meaningful linkages between the State's HBCUs and MWCUs through the Joint Faculty Appointments Program; and 3) to foster economic development in the state by facilitating, through various initiatives, interaction between business & industry, universities, and state government. This proposal continued the efforts begun under the EPSCoR ADP and SI awards previously described.						
1999 DEPSCoR Implementation Program 3 years	FY1999-00 – FY2001-02	Grant numbers vary	DOD	3 years	$1,459,473	$189,798
Participating Institutions: LSU A&M, LA Tech, UNO **Description/Purpose:** As in past DEPSCoR awards, the individual research projects funded through this award enhance the statewide research infrastructure improvement efforts.						
Experimental Program to Stimulate Competitive Technology (EPSCoT)	FY1999-00 – FY2000-01	60NANB9D0005	Dept. of Commerce	2 years	$250,000	$300,000
Participating Institutions: A significant number statewide **Description/Purpose:** To develop and implement regional and statewide strategies to accelerate commercialization of university-based technologies, thus contributing to the economic development of the State.						
NASA EPSCoR Program Continuation Funding	FY1999-00	NCC5-167	NASA	1 year	$400,000	$250,000
Participating Institutions: Dillard, LA Tech, LSU A&M, LSU Ag, LUMCON, McNeese, SUBR, Tulane, UNO, Xavier **Description/Purpose:** A renewal program to 1) continue to improve the infrastructure for aerospace-related research and education in Louisiana, and increase the State's capability to perform federally-funded aerospace research; and 2) to continue the support of three multi-institutional research cluster projects. This award is the sixth-year continuation of the NASA EPSCoR Program and NASA EPSCoR Program Renewal previously described.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
NASA EPSCoR Preparation Grant Program	FY1999-00	NCC5-393	NASA	1 year	$225,000	$100,000
Participating Institutions: A significant number statewide. Funds are competitively awarded. **Description/Purpose:** To allow Louisiana researchers to initiate contacts and promote collaborative research programs with NASA Centers and Enterprises, and begin research activities in areas of strategic importance to NASA in preparation for submission of a statewide proposal to NASA EPSCoR in 2001.						
NASA LaSPACE Continuation	FY2000-01 – FY2004-05	NGT5-40115	NASA	5 years	$1,281,250	$1,000,000
Participating Institutions: A consortium composed of sixteen campuses; grant funds are awarded on a competitive basis. **Description/Purpose:** This award continues the efforts begun under the original LaSPACE program and the LaSPACE renewal described previously.						
EPA EPSCoR 2000 Program –Coastal Monitoring	FY1999-00 – FY2000-01	R-82778501-0	EPA	2 years	$483,939	$500,000
Participating Institutions: LUMCON, Tulane (all data obtained will be made available to scientists and students throughout the state.) **Description/Purpose:** To establish and maintain a series of instrument platforms by which university scientists can monitor environmental variables in coastal Louisiana for research and educational needs, thus increasing the State's capability to compete for and perform federally-funded environmental research.						
Louis Stokes Louisiana Alliance for Minority Participation (LS-LAMP) Phase II	FY2000-01 – FY2005-06	HRD-000272	NSF	5 years	$5,000,000	$2,500,000
Participating Institutions: Dillard, Grambling, LUMCON, LSU A&M, McNeese, Nunez, SUBR, SUNO, SUSBO, Tulane, ULL, UNO **Description/Purpose:** To continue to increase the number of underrepresented minorities in Louisiana receiving B.S. degrees in science, engineering, and mathematics.						
NASA EPSCoR Preparation Grant Program Renewal	FY2000-01	NCC5-393	NASA	1 year	$225,000	$0
Participating Institutions: A significant number statewide. Funds are competitively awarded. **Description/Purpose:** To continue the efforts described above for the NASA EPSCoR Preparation Grant.						
NASA EPSCoR Program Continuation Funding (year seven) 1 year	FY2000-01	NCC5-167	NASA	1 year	$400,000	$0
Participating Institutions: Dillard, LA Tech, LSU A&M, LSU Ag, LUMCON, McNeese, SUBR, Tulane, UNO, Xavier **Description/Purpose:** This award is the seventh-year continuation of the NASA EPSCoR Program previously described.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
Video to the Desktop: A Louisiana Model	FY2000-01 – FY2001-02	EPS-0083089	NSF	2 years	$494,450	$0
Participating Institutions: LA Tech, LSU A&M, LSU Ag, LSUHSC-NO, LSUHSC-S, NSU, SLU, SUBR, Tulane, ULL, ULM, UNO **Description/Purpose:** To promote research partnerships by establishing an inter-institutional H.323 research communications (videoconferencing) network, which will operate over existing Internet lines instead of over telephone lines, and allow desktop-to-desktop multimedia communications.						
Louisiana EPSCoR Research Infrastructure Improvement (RII)	FY2001-02 – FY2003-04	EPS-0092001	NSF	3 years	$9,000,000	$3,000,000
Participating Institutions: A significant number statewide, including LA Tech, LSUHSC-NO, UNO, Grambling, LSU A&M, SUBR, Tulane, Xavier, NSU, ULM. A portion of the grant funds will be awarded on a continuing, competitive basis **Description/Purpose:** This award funds the “Micro/Nano Technologies for Advanced Physical, Chemical, and Biological Sensors” research consortium in addition to a variety of initiatives to enhance the competitiveness of science and engineering (S&E) faculty of the State’s higher education institutions. This proposal continues the efforts begun under the EPSCoR ADP, SI, and NCA awards previously described.						
NASA EPSCoR 2000	FY2001-02 – FY2003-04	NCC5-573	NASA	3 years	$2,100,000	$2,100,000
Participating Institutions: LSU A&M, LUMCON, Tulane, Dillard, ULL, UNO, Xavier. A portion of the grant funds will be awarded on a continuing, competitive basis. **Description/Purpose:** 1) To develop and strengthen long-term academic research enterprises that will make significant contributions to the strategic research and technology priorities of NASA and, in turn, to contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the State; and 2) to support three multi-institutional research projects.						
EPA EPSCoR 2001 Program – Climate Change	FY2002-03 – FY2003-04	R-82642001-0	EPA	2 years	$494,195	$494,542
Participating Institutions: LUMCON, UL-Lafayette, LSUBR **Description/Purpose:** To enhance Louisiana's capability for understanding and predicting the effects of climate change on the state’s coastal ecosystems, thus increasing the State’s capability to compete for and perform federally-funded environmental research.						
Louisiana’s Strategic Infrastructure Improvement (LSII)	FY2003-04– FY2005-06	EPS-0346411	NSF	3 years	$9,000,000	$3,000,000
Participating Institutions: A significant number statewide, including LSU A&M, LSUHSC-NO, SUBR, Tulane, ULL, ULM, UNO, Xavier. A portion of the grant funds will be awarded on a continuing, competitive basis. **Description/Purpose:** This award funds the “Center for Bio-Modular Multi-Scale Systems” in addition to a variety of initiatives to enhance the competitiveness of science and engineering (S&E) faculty of the State’s higher education institutions. This proposal continues the efforts begun under the EPSCoR ADP, SI, NCA, and RII awards previously described.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
NASA EPSCoR 2000 Renewal	FY2004-05 – FY2005-06	NCC5-573	NASA	2 years	$986,236	$986,560
Participating Institutions: LSU A&M, LUMCON, Tulane, Dillard, ULL, UNO, Xavier. A portion of the grant funds will be awarded on a continuing, competitive basis. **Description/Purpose:** A two-year renewal of the NASA EPSCoR 2000 Program to 1) To develop and strengthen long-term academic research enterprises that will make significant contributions to the strategic research and technology priorities of NASA and, in turn, to contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the State; and 2) to support multi-institutional research projects.						
DOE EPSCoR Implementation 2004	FY2004-05 – FY2006-07	DE-FG02-04ER46136	DOE	3 years	$1,200,000	$1,200,000
Participating Institutions: ULL, LSU A&M, SUBR **Description/Purpose:** To develop the infrastructure for energy and energy-related research in Louisiana, while improving the quality of energy research and education in the State and encouraging human resource development in this area. This award funds the multi-institutional, multidisciplinary research project entitled “Ubiquitous Computing and Monitoring System (UCoMS) for Discovery and Management of Energy Resources.”						
LAMP Phase III	FY2005-06 – FY2009-10	HRD-0503362	NSF	5 years	$2,500,000	$2,500,000
Participating Institutions: Dillard, Grambling, LUMCON, LSU A&M, McNeese, Nunez, SUBR, SUNO, SUSBO, Tulane, ULL, UNO **Description/Purpose:** To continue to increase the number of underrepresented minorities in Louisiana receiving B.S. degrees in science, engineering, and mathematics, and to transition at least 30% of these graduates to graduate school by 2010.						
NASA LaSPACE Continuation II	FY2005-06 – FY2009-10	NNG05GH22H	NASA	5 years	At least $1,280,000	$1,000,000
Participating Institutions: A consortium composed of sixteen campuses; grant funds are awarded on a competitive basis. **Description/Purpose:** This award continues the efforts begun under the original LaSPACE program and the LaSPACE renewals described previously.						
NASA EPSCoR Phase 3	FY2006-07 – FY2011-12	NNX07AL03A, NNX07AT62A, NNX07AT67A	NASA	6 years	$2,175,000	$2,250,000
Participating Institutions: LSU A&M, SUBR. A portion of the grant funds will be awarded to these and other institutions on a continuing, competitive basis. **Description/Purpose:** 1) To develop and strengthen long-term academic research enterprises that will make significant contributions to the strategic research and technology priorities of NASA and, in turn, to contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the State; and 2) to support two research projects of particular interest to NASA, one studying adhesively bonded joints in composite structures and one focusing on high-energy astrophysics.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
Louisiana EPSCoR Research Infrastructure Improvement (CyberRII)	FY2006-07 – FY2008-09	EPS-0701491	NSF	3 years	$9,000,000	$3,000,000

Participating Institutions: A significant number statewide, including LSU A&M, LSUHSC-NO, LA Tech, SUBR, Tulane, Tulane Health Sciences Center, Xavier, ULL, UNO. A portion of the grant funds will be awarded to these and other institutions on a continuing, competitive basis
Description/Purpose: The focus of this project is the development of multi-functional cyberinfrastructure (*CyberTools*) that will broadly enable significant advances in modern science and engineering. In addition, a variety of initiatives to enhance the competitiveness of science and engineering (S&E) faculty of the State's higher education institutions are also supported. This project continues the efforts begun under the EPSCoR ADP, SI, NCA, RII, and LSII awards previously described.

DOE EPSCoR Implementation Renewal	FY2007-08 – FY2009-10	DE-FG02-04ER46136	DOE	3 years	$900,000	$1,200,000

Participating Institutions: ULL, LSU A&M, SUBR
Description/Purpose: This is a three-year renewal of the DOE EPSCoR program, which seeks to develop the infrastructure for energy and energy-related research in Louisiana, while improving the quality of energy research and education in the State and encouraging human resource development in this area. This award funds the multi-institutional, multidisciplinary research project entitled "Ubiquitous Computing and Monitoring System (UCoMS) for Discovery and Management of Energy Resources."

NASA EPSCoR 2009 Research 3	FY2009-10 – FY2011-12	NNX09AP72A	NASA	3 years	$750,000	$750,000

Participating Institutions: LSU A&M, SUBR.
Description/Purpose: Support for a research project to develop thermal barrier coatings with high reflectance in both the visible and infrared bandwidth to reduce the thermal radiation transport. Such nano-structured TBCs would make significant contributions to NASA's efforts to develop advanced thermal barrier systems for jet engine propulsion.

NASA EPSCoR 2009 Research 4	FY2009-10 – FY2011-12	NNX10AP07A	NASA	3 years	$750,000	$750,000

Participating Institutions: LSU A&M, LA Tech, SUBR.
Description/Purpose: This research program will investigate existing and novel microorganisms with tolerances to cold, desiccation, and radiation as models for astrobiology. The expected outcomes include the development of fundamental astrobiological concepts and operational capabilities that would promote the success of future NASA-driven life detection missions, inform policies on planetary protection, and lay the foundation for a new space research enterprise in Louisiana.

Louisiana EPSCoR Research Infrastructure Improvement (LA-SiGMA)	FY2009-10 – FY2013-14	EPS-1003897	NSF	5 years	$20,000,000	$10,000,000

Participating Institutions: A significant number statewide, including LSU A&M, Grambling, LA Tech, SUBR, Tulane, Xavier, and UNO. A portion of the grant funds will be awarded to these and other institutions on a continuing, competitive basis
Description/Purpose: The research component of the NSF EPSCoR project will create the *Louisiana Alliance for Simulation-Guided Materials Applications (LA-SiGMA).* Program objectives include: building the next generation of experimentally validated formalisms, algorithms, and codes for multiscale materials simulations; implementing them on present and next generation super-computers; and educating the next generation of a highly skilled workforce of materials scientists and engineers.

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
NASA LaSPACE Renewal	FY2010-11 – FY2014-15	NNX10AI40H	NASA	5 years	At least $3,145,000	$1,250,000
Participating Institutions: A consortium composed of sixteen campuses; grant funds are awarded on a competitive basis. **Description/Purpose:** This award continues the efforts begun under the original LaSPACE program and the LaSPACE renewals described previously.						
LAMP Phase IV (Senior-Level Alliance)	FY2010-11 – FY2014-15	HRD-1002541	NSF	5 years	$2,500,000	$2,500,000
Participating Institutions: Dillard, Grambling, LUMCON, LSU A&M, McNeese, Nunez, SUBR, SUNO, SUSBO, Tulane, ULL, UNO, Xavier **Description/Purpose:** The purpose of the LAMP program is to increase the number of underrepresented minorities in Louisiana receiving degrees in science, engineering, and mathematics. Phase IV will continue a comprehensive set of institutional transformation and systemic mentoring activities, with special emphasis on the progression of minority STEM students to and through graduate school and their transition to research-based careers that include the professoriate.						
NASA EPSCoR 2009 Research 5	FY2011-12 – FY2013-14	NNX11AM17A	NASA	3 years	$750,000	$750,000
Participating Institutions: LSU A&M, SUBR. **Description/Purpose:** This research program will provide NASA with more durable, reliable, lighter, safer, and smarter composite sandwich structures, create knowledge and develop enabling technology in self-healing composite materials/structures, and enhance related research infrastructure and workforce training at LSU and SU.						
NASA EPSCoR 2009 Research 6	FY2012-13 – FY2014-15	NNX13AD29A	NASA	3 years	$750,000	$750,000
Participating Institutions: UNO, LSU A&M, SUBR. **Description/Purpose:** This research program will provide NASA with joint decision and estimation framework to enable heavier yet safer air traffic in the Next Generation Air Transportation System. This project will also enhance related research infrastructure and workforce training at UNO, LSU and SU.						
NASA EPSCoR Research Infrastructure	FY2012-13 – FY2014-15	NNX13AB14A	NASA	3 years	$375,000	$375,000
Participating Institutions: LSU A&M. A significant portion of the grant funds will be awarded to other LA institutions on a continuing, competitive basis. **Description/Purpose:** 1) To develop and strengthen long-term academic research enterprises that will make significant contributions to the strategic research and technology priorities of NASA and, in turn, to contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the State; and 2) to support research projects of particular interest to NASA.						
NASA EPSCoR 2009 Research 7	FY2013-14 – FY2015-16	NNX13AN05A	NASA	3 years	$750,000	$750,000
Participating Institutions: LA Tech, Grambling, ULL. **Description/Purpose:** This research program will provide NASA with a means of assessing the impact of high-energy radiation on genetic material, which can be used to improve radiation risk analysis on space missions. This project will also enhance related research infrastructure and workforce training at LA Tech, Grambling, and ULL.						

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
DOE EPSCoR Implementation 2014	FY2014-15	DE-SC0012432	DOE	3 years	$4,949,000	$500,000

Participating Institutions: LSU A&M, LA Tech, Tulane, UNO.
Description/Purpose: This research program seeks to establish unique capabilities among Louisiana faculty by using the advanced neutron scattering facilities at Oak Ridge National Laboratory to characterize complex materials. This project will also enhance related research infrastructure and workforce training in materials science at the participating universities.

NASA LaSPACE Continuation	FY2015-16 – FY2018-19	NNX15AH82H	NASA	3 years	$2,855,000	$1,000,000

Participating Institutions: A consortium composed of sixteen campuses; grant funds are awarded on a competitive basis.
Description/Purpose: This award continues the efforts begun under the original LaSPACE program and the LaSPACE renewals described previously.

NASA EPSCoR Research 9	FY2015-16 – FY2017-18	NNX15AM61A	NASA	3 years	$750,000	$750,000

Participating Institutions: LSU A&M, SUBR, Xavier, University of Puerto Rico.
Description/Purpose: This research program will help us better understand a component of lightning-producing storms called terrestrial gamma flashes, or TGFs. The project will also build research infrastructure at three minority institutions in two EPSCoR jurisdictions and train underserved minority students.

NASA EPSCoR Research Infrastructure	FY2015-16 – FY2018-19	NNX15AK33A	NASA	3 years	$500,000	$500,000

Participating Institutions: LSU A&M. A significant portion of the grant funds will be awarded to other LA institutions on a continuing, competitive basis.
Description/Purpose: 1) To develop and strengthen long-term academic research enterprises that will make significant contributions to the strategic research and technology priorities of NASA and, in turn, to contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the State; and 2) to support research projects of particular interest to NASA.

Louisiana EPSCoR Research Infrastructure Improvement (CIMM)	FY2015-16 – FY2019-20	OIA-154079	NSF	5 years	$20,000,000	$4,000,000

Participating Institutions: A significant number statewide, including LSU A&M, Grambling, LA Tech, SUBR, and UNO. A portion of the grant funds will be awarded to these and other institutions on a continuing, competitive basis.

Description/Purpose: The research component of the NSF EPSCoR project will create the *Consortium for Innovation in Manufacturing and Materials (CIMM).* The two main goals of the project are to 1) address challenges in high-throughput manufacturing of components with functional features ranging from microns to millimeters and beyond with high fidelity and repeatability and 2) focus on adaptive manufacturing of application-specific structures with a high degree of geometric and microstructural complexity and variability. In addition, the Consortium's workforce development program will provide advanced hands-on training in manufacturing-relevant skills for students in two- and four-year institutions.

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
NASA EPSCoR Research 10	FY2016-17 – FY2018-19	NNX16AQ93A	NASA	3 years	$750,000	$750,000

Participating Institutions: LSU A&M, SUBR.
Description/Purpose: This project will develop new polymer composite panels for in-service damage self-healing through (1) design, synthesis, characterization, and manufacturing of two-way shape memory polymers (2W-SMPs); (2) multiscale modeling of the smart composite structures; and (3) additive manufacturing using 3D printing and experimental evaluation of the smart composite panels for impact mitigation and in-service crack healing. This project was also designed to attract and retain a greater number of high caliber students, including underrepresented minority students, in STEM disciplines, and train a larger number of high caliber STEM students for NASA related industry.

NASA EPSCoR Research 11	FY2017-18 – FY2019-20	N/A	NASA	3 years	$750,000	$750,000

Participating Institutions: LSU A&M, SUBR.
Description/Purpose: This research addresses the transport of carbon through the land-sea interface, and supports NASA's major strategic goal to advance understanding of Earth. The team proposes to investigate two contrasting coastal sites across the Mississippi River Delta: the Bataria Bay Region and the Wax Lake Delta region. Understanding these two contrasting environments which are under same climate conditions is critical to assess the role of delta systems in carbon export to the coastal oceans on a global scale.

DOE EPSCoR Implementation Renewal	FY2017-18	DE-SC0012432	DOE	3 years	$4,938,95	$500,000

Participating Institutions: LSU A&M, Tulane, UNO.
Description/Purpose: : This is a three-year renewal of the DOE EPSCoR LaCNS project which seeks to build on its prior success to attain a sustainable neutron scattering infrastructure capable of treating both soft and hard materials. This project will also enhance related research infrastructure and workforce training in materials science at the participating universities.

NASA EPSCoR Research 12	FY2018-19 – FY2020-21	N/A	NASA	3 years	$750,000	$750,000

Participating Institutions: ULL.
Description/Purpose: The overarching goal of this project is to develop a waste management system, BIOSYS, that is energy- and oxygen-use neutral (produces as much or more of these resources than it consumes) and is capable of meeting treatment goals while producing additional life support resources. This project will also (a) position the project team as leading experts on in-space waste management strategies and (b) build a foundation of interest among current and future students in space-related STEM areas.

NASA EPSCoR Research Infrastructure 2019-22	FY2019-20 – FY2021-22	80NSSC19M0055	NASA	3 years	$375,000	$375,000

Participating Institutions: LSU A&M. A significant portion of the grant funds will be awarded to other LA institutions on a continuing, competitive basis.
Description/Purpose: 1) To develop and strengthen long-term academic research enterprises that will make significant contributions to the strategic research and technology priorities of NASA and, in turn, to contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the State; and 2) to support research projects of particular interest to NASA.

NASA EPSCoR Research 13	FY2019-20 – FY2021-22	80NSSC19M0149	NASA	3 years	$749,393.87	$750,000

Participating Institutions: ULL, LSU A&M, LA Tech
Description/Purpose: This collaborative research effort is designed to study additive manufacturing processes using lightweight metal alloys for in-space manufacturing applications. The primary objective of ISM-LMA is to produce robust and high strength FDM aluminum parts with minimum porosities.

Title	Fiscal Years	Federal Award Number	Federal Agency	Duration	Federal Award Amt.	Support Fund Match
Louisiana EPSCoR Research Infrastructure Improvement (LAMDA)	FY2020-21 – FY2024-25	OIA-1946231	NSF	5 years	$20,000,000	$4,000,000

Participating Institutions: A significant number statewide, including LSU A&M, LA Tech, SUBR, ULL, and Tulane. A portion of the grant funds will be awarded to these and other institutions on a continuing, competitive basis.

Description/Purpose: Louisiana proposes to transform research and education in advanced manufacturing and materials throughout the State by establishing the Louisiana Materials Design Alliance (LAMDA). The research objective of LAMDA is to generate fundamental insights into the complex relationships among composition, processing, microstructure, performance, and structural integrity within the context of additive manufacturing (AM).

NASA EPSCoR Research 14	FY2020-21 – FY2022-23	80NSSC20M0216	NASA	3 years	$750,000	$750,000

Participating Institutions: LSU A&M, LSUHSC-NO, SUBR, LA Tech
Description/Purpose: The purpose of this project is to develop and demonstrate innovative technologies to automatically transfer, sustainably use, and interactively visualize NASA satellite remote sensing products for intelligently forecasting oyster harvesting safety risks, protecting public health, and promoting economic (particularly oyster industry) development in Louisiana and beyond.

NASA LaSPACE Renewal	FY2020-21 – FY2023-24	80NSSC20M0110	NASA	4 years	$2,815,000	$1,000,000

Participating Institutions: A consortium composed of 31 affiliates; grant funds are awarded on a competitive basis.
Description/Purpose: This award continues the efforts begun under the original LaSPACE program and the LaSPACE renewals described previously.

ATTACHMENT II

Board of Regents Support Fund
Results of Selected Projects

Following are brief synopses of several successful projects recently funded through Board of Regents Support Fund competitive grants programs. These represent just a small sample of the supplementary and enhancing activities made possible across higher education in Louisiana by distribution of these dollars.

ENHANCEMENT

With support from a Targeted Departmental Enhancement grant, **Fletcher Technical Community College** purchased cutting-edge equipment to enhance and expand training capacity in its Marine Diesel program. Trained on the newest technology available, students will be highly competitive for high-demand, high-wage jobs in this field, while faculty are able to update and revise curricula to align with the needs of employers across the sector. During the project year, 45 students were enrolled in the program, along with 16 high school students participating via dual enrollment; the equipment purchases expand capacity, meaning more students each semester can receive program training over the coming years. *{LEQSF(2019-20)-ENH-DE-04; Ronnie Hayes, PI}*

Southeastern Louisiana University used a Targeted Departmental Enhancement award to create a sales and marketing facility, the iSale Lab, which facilitates practical, hands-on learning and allows extensive observation of other students at work in role-play facilities. The tools and techniques the students learn prepare them for the workforce, as well as to participate in Southeastern Sales Challenge. In the first year, 24 students competed and 25 industry representatives participated as judges and buyers. The new equipment also proved invaluable when the campus moved to online learning in response to the COVID-19 disruption in spring 2020, as all faculty were invited to use the facility to record lectures for online courses. Despite the disruption, in its first year the lab served over 1,700 students and 20 faculty members and promises to expand its reach as campuses return to normal operations. *{LEQSF(2019-20)-ENH-DE-19; Tará Lopez, PI}*

A faculty team at **Louisiana State University and A&M College** used Departmental Enhancement funding to purchase an Elemental Analyzer Isotope Ratio Mass Spectrometer as part of its Wetland Biogeochemistry Analytical Services lab. The equipment has already been integrated into a graduate-level course and now that it is fully operational will be extensively used by undergraduate students. The opportunity for hands-on experience and training on a cutting-edge piece of equipment such as this is a major recruitment incentive for both undergraduate and graduate students. In addition, the tool has helped to develop new streams of grant funding, interdisciplinary collaborations, and high-impact research, with at least one major

award already conditionally offered. It is also attracting government and industry clients, who can access the equipment on a fee-for-service basis. *{LEQSF(2019-20)-ENH-DE-06; Michael Polito, PI}*

Southern University and A&M College used Targeted Departmental Enhancement funding to purchase a high-performance servo-hydraulic tensile and fatigue test system, a major addition to support important research and education in 21st-century materials. The expanded capabilities will boost the capacity of Mechanical Engineering programs at Southern University, supporting several well-established and well-funded research programs, as well as allowing development of course modules to ensure students at all levels are prepared for workforce opportunities in an area of primary importance to Louisiana business and industry. New course modules made possible by the acquisition have already affected over 100 undergraduate and 20 graduate students. Six faculty members have scheduled use of the equipment for research activities related to funded projects, while several more have projects pending funding decisions that were made possible by the acquisition. The equipment has also strengthened program and faculty relationships with other universities and bolstered opportunities for research collaboration. *{LEQSF(2018-19)-ENH-DE-14; Samuel Ibekwe, PI}*

A Departmental Enhancement project at the **University of Louisiana at Monroe** has enabled the campus to expand its suite of high-fidelity medical simulators; a second BoRSF award, approved in 2020, will allow for the addition of two more. The result of this expansion has been significant increases in the numbers of faculty, undergraduate students, and area high schools able to gain experience operating these simulators. Since its installation, 89% of the faculty in the department, many of whom previously had no experience with it before, have used the simulation equipment with their students; 100% of students – nearly 500 – participated in at least one simulation experience during the 2019-20 academic year. Both faculty and students reported high enthusiasm for the knowledge and skills learned through the experience, which aligns strongly with workforce needs. *{LEQSF(2018-19)-ENH-DE-18; Donna Glaze, PI}*

Louisiana State University Agricultural Center, with assistance from a Departmental Enhancement award, was able to engage both faculty and students in conducting fundamental and applied materials research and development in cellulose, polymers, bio-energy, engineering composites, and advanced nano-materials. The equipment purchased with grant funds allowed the LSU Ag Center to establish a complete lab for the manufacturing of wood-plastic composite materials. This work aligns clearly with Louisiana's prioritization of advanced manufacturing and materials, helping to build the state's research profile while training students and faculty for work with this vital industry. BoRSF support has already seeded three additional grants in this area, as well as 25 publications. *{LEQSF(2018-19)-ENH-DE-06; Qinglin Wu, PI}*

A Departmental Enhancement project at **Louisiana Tech University** has helped to establish the Small Ruminant Center (SRC), focusing on both education and research related to sheep and

goat production. In the first year of the project, approximately 120 students were engaged, new courses were developed, and partnerships were established between Animal Science, Plant Science, and Agricultural Business programs, with the potential to engage 150-200 additional students. SRC facilities also enabled research activities, particularly on nutritional management and feed additives. The impact of the SRC is extensive, profoundly enhancing undergraduate and graduate education and research opportunities, outreach programs, and community activities in an agriculture-rich area of the state previously underserved in this discipline. *{LEQSF(2018-19)-ENH-DE-10; Ashley Keith, PI}*

RESEARCH AND DEVELOPMENT

Research Competitiveness Subprogram (RCS)

The BoRSF Research Competitiveness Subprogram (RCS) provides funding to scientists on the verge of competitiveness for federal research funding, to help them overcome barriers and achieve success. In recent years, three RCS principal investigators – two at **Tulane University** and one at **Louisiana State University and A&M College** – have won CAREER awards, the most prestigious young investigator grant offered by the National Science Foundation. In total, these three five-year CAREER awards bring more than $1.7 million in federal research funding to Louisiana institutions. This represents a return on the RCS investment of more than $4.38 of every $1 spent from the BoRSF. *{LEQSF(2015-18)-RD-A-23; Jiang Wei, PI; LEQSF(2016-19)-RD-A-07; Daniel Kuroda, PI; and LEQSF(2016-19)-RD-A-19; Eliot Kapit, PI}*

A team of researchers at **LSU Health Sciences Center – New Orleans** is studying how bacteria invade their hosts' defenses through studies of an important cause of respiratory infections, the pathogen *Legionella*. Understanding how this infection works gives vital insight into both the particular ways to mitigate and control its effects, as well as aiding in the design of more effective antimicrobial therapies. The success of the RCS-funded research, generating significant preliminary data and yielding two published manuscripts with more in progress, helped the team secure a five-year, $1.812 million R01 award from the National Institutes of Health to continue and advance this important work. *{LEQSF(2016-19)-RD-A-15; Stanimir Ivanov, PI}*

With the help of RCS funding, a research group at the **University of Louisiana at Lafayette** is making significant strides toward understanding how continents are formed and new land is created. Studying deformation, thermal exchange, and fluid flow, the team is seeking to understand mechanisms of exchange between fluids and minerals in deforming rock as the Earth's upper and lower crusts interact. The research has pushed the boundary of oxygen isotope analysis of minerals to the micron scale, resulting in a major award, totaling $319,973, for the study of fluid flow in the Earth's mid-crust. *{LEQSF(2015-18)-RD-A-28; Raphael Gottardi, PI}*

Thanks in part to an RCS award, a principal investigator at **Tulane University** has established a highly competitive research program focused on the study of family and community violence's impact on young children and their development. The research provides vital missing information about and understanding of risks of exposure to violence, and how children might develop resilience in the face of violence. The researchers have secured substantial funding to continue the work seeded by RCS, including grants from the multiple sectors of the National Institutes of Health, as well as the Brain and Behavior Foundation. The principal investigator's work has received national prizes and early career awards, while both graduate and undergraduate students working in her lab have received awards for excellence for both research poster submissions and theses based on their participation in the research work. *{LEQSF(2016-19)-RD-A-17; Sarah Gray, PI}*

Industrial Ties Research Subprogram (ITRS) & Proof-of-Concept/Prototyping Initiative (PoC/P)

A researcher at **Louisiana Tech University** has used PoC/P funding to optimize a process to produce fuel and feedstock from lignin via zeolite solid crystallization. An economical means of production is of high interest to the petroleum industry, yielding significant partnerships between the principal investigator and Albemarle and the Southwest Research Institute (SWRI). Encouraging results during the award suggest the results can be useful in both traditional fossil fuel and renewable energy fields. An award from the ACS Petroleum Fund confirms the potential of the research. Two patent applications have already been filed, with a plan over the coming year to spin off a new company based on these technologies to manage future development, partnerships with industry, and licensing. *{LEQSF(2018-19)-RD-D-04; Shengnian Wang, PI}*

Understanding groundwater sustainability is critical for communities – both public and industrial users – to ensure long-term viability and adjust to projected changes. A researcher at **Louisiana State University and A&M College** has worked with both industrial partners and public services to complete a geological model of the Southern Hills aquifer system in five parishes (East and West Baton Rouge, Pointe Coupee, and East and West Feliciana) and understand withdrawal rates for multiple uses across the model area. As the project continues, it will build on this essential information to develop a wide-ranging picture of water availability and projections for the future, necessary for decision-making and long-range planning. *{LEQSF(2017-20)-RD-B-03; Frank Tsai, PI}*

A team of researchers at the **University of Louisiana at Lafayette** are studying the creation of complex fractures in unconventional reservoirs, a topic of great importance in the development of the shale resources that are abundant in Louisiana. Not only is the research significant for industries developing the Haynesville and Tuscaloosa shales, it is helping to develop a highly skilled workforce for the industry by engaging students with industry partners, and expanding

Louisiana's research contributions to a growing field. Locally, the study led to more than ten conference and journal papers and placement of a graduate-level student with an industry partner. More broadly, the impacts are substantial: the ITRS award helped set the stage for the team to secure almost $3.6 million from the U.S. Department of Energy and private industry to study Tuscaloosa Marine Shale, with a focus on enabling more cost-efficient and environmentally sound recovery from this unconventional liquid-rich shale play. *{LEQSF(2017-20)-RD-B-05; Mehdi Mokhtari, PI}*

Awards to Louisiana Artists and Scholars (ATLAS) Subprogram

A historian at **Tulane University** has used ATLAS funding to complete a major monograph on Noel Carrière, the commander of the New Orleans Free Black Militia during the Revolutionary War. The book, to be published in early 2021, adds both Carrière and Louisiana back into the nation's founding story and provides a rare account of the life and experiences of a Black colonial in Spanish Louisiana. This work promises to expand and complicate our understanding of New Orleans life and culture at the time of the United States' founding. *{LEQSF(2018-19)-RD-ATL-06; Emily Clark, PI}*

An ATLAS principal investigator at **Louisiana State University and A&M College** has recently published a study of mass partisanship and violence during the Civil War era. Using extensive data sets, including seven decades of county-level election returns, over one million geo-located Union soldier records, census reports, post locations, and period newspapers, the work provides a comprehensive study of partisan behaviors, including violence, persistence, reasoning, and memory, showing the dynamic role of political partisanship in shaping and reshaping the nation at this turning point in history. *{LEQSF(2018-19)-RD-ATL-03; Nathan Kalmoe, PI}*

LOUISIANA EPSCoR

In 2020 a consortium of researchers significantly enhanced Louisiana's leadership in advanced manufacturing and materials research and education through the award of a highly competitive $20 million Track 1 grant from the National Science Foundation's Established Program to Simulate Competitive Research (EPSCoR). The grant established the Louisiana Materials Design Alliance **(LAMDA)**, a research collaboration among five of Louisiana's public universities: Louisiana State University and A&M College, Louisiana Tech University, Southern University and A&M College, Tulane University and the University of Louisiana at Lafayette. Importantly, LAMDA's impact stretches far beyond the five lead campuses, engaging higher education institutions across Louisiana in building their research capacity and success.

The five-year award is having a significant impact on the State, launching the next level of research and development into advanced manufacturing and materials. Researchers will be designing complex alloys and polymers specifically for 3D printing, also known as additive manufacturing. There is a huge demand in the additive manufacturing industry for new 3D printing materials to produce metal and plastic products with fewer defects and a longer useful life. Louisiana researchers will use advanced machine learning to study the characteristics of novel materials and test how they react under pressure and heat during the manufacturing process. The major outcomes of this project will include a materials design framework guided by machine learning, a framework to assess structural integrity, and a diverse and highly skilled STEM workforce for Louisiana. This new award will leverage the remarkable progress made through the Consortium for Innovation in Manufacturing and Materials (CIMM), funded through a previous NSF Track 1 award, which established Louisiana as a national leader in 21st-century materials and manufacturing.

Louisiana EPSCoR also holds several additional awards through federal programs. The NSF EPSCoR Track 3 award, led by **Louisiana Tech University** with participation of high schools and middle schools across the State, is developing and implementing Science, Technology, Engineering and Mathematics (STEM) discovery camps for students and teachers that can be replicated across the State. By focusing on teachers over a period of several years, the program will ultimately have a broad impact on significant numbers of students and improve education, training, and opportunities for industry in Louisiana.

An additional award, approximately $5 million from the Department of Energy's EPSCoR program paired with $500,000 in BoRSF matching, continued the highly successful project entitled "Building Neutron Scattering Infrastructure in Louisiana for Advanced Materials." The project has enabled us to build a regional base of users of the Spallation Neutron Source (SNS) and the High Flux Isotope Reactor (HFIR) at the Oak Ridge National Laboratory. A collaborative effort led by **Louisiana State University and A&M College in partnership with Louisiana Tech, Tulane, and UNO**, the project continues to enable the training of highly talented students and post-doctoral fellows, the next generation of neutron users, in synthesis and neutron scattering techniques.

ATTACHMENT III

TAXONOMY OF DISCIPLINES
USED IN THE
BOARD OF REGENTS SUPPORT FUND PROGRAMS

NATURAL SCIENCES - BIOLOGICAL

Agriculture
- 0101 Agricultural Economics
- 0102 Agricultural Production
- 0103 Agricultural Sciences
- 0104 Agronomy
- 0105 Animal Sciences
- 0106 Fishery Sciences
- 0107 Food Sciences
- 0108 Forestry and Related Sciences
- 0109 Horticulture
- 0110 Resource Management
- 0111 Parks and Recreation Management
- 0112 Plant Sciences (Except Agronomy, see 0104)
- 0113 Renewable Natural Resources
- 0114 Soil Sciences
- 0115 Wildlife Management
- 0199 Agriculture - Other

Biological Sciences
- 0201 Anatomy
- 0202 Biochemistry/Biophysics
- 0203 Biology
- 0204 Biometry
- 0205 Botany
- 0206 Cell and Molecular Biology
- 0207 Ecology
- 0208 Embryology
- 0209 Entomology and Parasitology
- 0210 Genetics
- 0211 Marine Biology
- 0212 Microbiology
- 0213 Neurosciences
- 0214 Nutrition
- 0215 Pathology
- 0216 Pharmacology
- 0217 Physiology
- 0218 Radiobiology
- 0219 Toxicology
- 0220 Zoology
- 0299 Biological Sciences - Other

NATURAL SCIENCES -BIOLOGICAL (CONTINUED)

Health and Medical Sciences
- 0601 Allied Health
- 0602 Audiology and Speech Pathology
- 0603 Chiropractic
- 0604 Dental Sciences
- 0605 Environmental Health
- 0606 Epidemiology
- 0607 Health Science Administration
- 0608 Immunology
- 0609 Medical Sciences
- 0610 Nursing
- 0611 Optometry
- 0612 Osteopathic Medicine
- 0613 Pharmaceutical Sciences
- 0614 Podiatry
- 0615 Pre-Medicine
- 0616 Public Health
- 0617 Veterinary Science
- 0699 Health and Medical Sciences - Other

NATURAL SCIENCES - PHYSICAL

Chemistry
- 0301 Chemistry, General
- 0302 Analytical Chemistry
- 0303 Inorganic Chemistry
- 0304 Organic Chemistry
- 0305 Pharmaceutical Chemistry
- 0306 Physical Chemistry
- 0399 Chemistry - Other

Physics and Astronomy
- 0801 Astronomy
- 0802 Astrophysics
- 0803 Atomic/Molecular Physics
- 0804 Nuclear Physics
- 0805 Optics
- 0806 Planetary Science
- 0807 Solid State Physics
- 0899 Physics and Astronomy - Other

NATURAL SCIENCES - COMPUTATIONAL

Computer and Information Sciences
0401 Computer Programming
0402 Computer Sciences
0403 Data Processing
0404 Information Sciences
0405 Microcomputer Applications
0406 Systems Analysis
0499 Computer Sciences - Other

Mathematical Sciences
0701 Actuarial Sciences
0702 Applied Mathematics
0703 Mathematics
0704 Probability and Statistics
0799 Mathematical Sciences - Other

NATURAL SCIENCES - EARTH/ENVIRONMENTAL

Earth, Atmospheric, and Marine Sciences
0501 Atmospheric Sciences
0502 Environmental Sciences
0503 Geochemistry
0504 Geology
0505 Geophysics and Seismology
0506 Paleontology
0507 Meteorology
0508 Oceanography
0599 Earth, Atmospheric, and Marine Sciences - Other
4403 Environmental Design
4405 Landscape Architecture

ENGINEERING - A

Engineering - Chemical
1001 Chemical Engineering
1002 Pulp and Paper Production
1003 Wood Science
1099 Chemical Engineering - Other

Engineering - Civil
1101 Architectural Engineering
1102 Civil Engineering
1103 Environmental/Sanitary Engr.
1199 Civil Engineering - Other

ENGINEERING - A (CONTINUED)

Engineering - Electrical and Electronics
1201 Computer Engineering
1202 Communications Engineering
1203 Electrical Engineering
1204 Electronics Engineering
1299 Electrical and Electronics Engineering - Other

ENGINEERING - B

Engineering - Industrial
1301 Industrial Engineering
1302 Operations Research
1399 Industrial Engineering - Other

Engineering - Materials
1401 Ceramic Engineering
1402 Materials Engineering
1403 Materials Science
1404 Metallurgical Engineering
1499 Materials Engineering - Other

Engineering - Mechanical
1501 Engineering Mechanics
1502 Mechanical Engineering
1599 Mechanical Engineering - Other

Engineering - Other
1601 Aerospace Engineering
1602 Agricultural Engineering
1603 Biomedical Engineering
1604 Engineering Physics
1605 Engineering Science
1606 Geological Engineering
1607 Mining Engineering
1608 Naval Architecture and Marine Engineering
1609 Nuclear Engineering
1610 Ocean Engineering
1611 Petroleum Engineering
1612 Systems Engineering
1613 Textile Engineering
1699 Engineering - Other

SOCIAL SCIENCES

Anthropology and Archaeology
1701 Anthropology
1702 Archaeology

Economics
1801 Economics
1802 Econometrics

Law (5102)

Political Science
1901 International Relations
1902 Political Science and Government
1903 Public Policy Studies
1999 Political Science - Other

Psychology
2001 Clinical Psychology
2002 Cognitive Psychology
2003 Community Psychology
2004 Comparative Psychology
2005 Counseling Psychology
2006 Developmental Psychology
2007 Experimental Psychology
2008 Industrial and Organizational Psychology
2009 Personality Psychology
2010 Physiological Psychology
2011 Psycholinguistics
2012 Psychometrics
2013 Psychopharmacology
2014 Quantitative Psychology
2015 Social Psychology
2099 Psychology - Other

Sociology and Social Work
2101 Demography
2102 Sociology
5001 Social Work

Social Sciences - Other
2201 Area Studies
2202 Criminal Justice/Criminology
2203 Geography
2204 Public Affairs and 4801 Public Administration
2205 Urban Studies and 4406 Urban Design
2299 Social Sciences - Other
4401 Architecture
4402 City and Regional Planning
4404 Interior Design

SOCIAL SCIENCES (CONTINUED)

Communications
4501 Advertising
4502 Communications Research
4503 Journalism and Mass Communication
4504 Public Relations
4505 Radio, TV and Film
4506 Speech Communication
4599 Communications - Other

Home Economics
4601 Consumer Economics
4602 Family Relations
4699 Home Economics - Other

Library and Archival Sciences
4701 Library Science
4702 Archival Science

ARTS

Arts - History, Theory, and Criticism
2301 Art History and Criticism
2302 Music History, Musicology, and Theory
2399 Arts - History, Theory, and Criticism - Other

Arts - Performance and Studio
2401 Art
2402 Dance
2403 Drama/Theatre Arts
2404 Music
2405 Design (including Industrial)
2406 Fine Arts
2499 Arts - Performance and Studio - Other

Arts - Other
2999A Arts - Other
5101A Interdisciplinary Programs

HUMANITIES

English Language and Literature
2501 English Language and Literature
2502 American Language and Literature
2503 Creative Writing
2599 English Language and Literature – Other

HUMANITIES (CONTINUED)

Foreign Language and Literature
2601 Asiatic Languages
2602 Foreign Literature
2603 French
2604 Germanic Languages
2605 Italian
2606 Russian
2607 Semitic Languages
2608 Spanish
2699 Foreign Languages - Other

History
2701 American History
2702 European History
2703 History of Science
2799 History - Other

Philosophy
2801 All Philosophy Fields

Humanities - Other
2901 Classics
2902 Comparative Language and Literature
2903 Linguistics
2904 Religious Studies; 4901 Religion; and 4902 Theology
2999H Humanities - Other
5101H Interdisciplinary Programs

EDUCATION

Education - Administration
3001 Educational Administration
3002 Educational Supervision

Education - Curriculum and Instruction
3101 Curriculum and Instruction

Education - Early Childhood
3201 Early Childhood Education

Education - Elementary
3301 Elementary Education
3302 Elementary-level Teaching Fields

EDUCATION (CONTINUED)

Education - Evaluation and Research
3401 Educational Statistics and Research
3402 Educational Testing Evaluation and Measurement
3403 Educational Psychology
3404 Elementary and Secondary Research
3405 Higher Education Research

Education - Higher
3501 Educational Policy
3502 Higher Education

Education - Secondary
3601 Secondary Education
3602 Secondary Level Teaching Fields

Education - Special
3701 Education of the Gifted
3702 Education of the Handicapped
3703 Education of Special Learning Disabilities
3704 Remedial Education
3799 Other Special Education Fields

Education - Student Counseling and Personnel Services
3801 Personnel Services
3802 Student Counseling

Education - Other
3901 Adult and Continuing Education
3902 Bilingual/Crosscultural Education
3903 Educational Media
3904 Junior High/Middle School Education
3905 Pre-Elementary Education
3906 Social Foundations
3907 Teaching English as a Second Language/Foreign Language
3999 Other Education Fields

BUSINESS

Accounting
- 4001 Accounting
- 4002 Taxation

Banking and Finance
- 4101 Commercial Banking
- 4102 Finance
- 4103 Investments and Securities

Business, Administration and Management
- 4201 Business Administration and Management
- 4202 Human Resource Development
- 4203 Institutional Management
- 4204 Labor/Industrial Relations
- 4205 Management Science
- 4206 Organizational Behavior
- 4207 Personnel Management
- 4299 Business Management - Other

Business - Other
- 4301 Business Economics
- 4302 International Business Management
- 4303 Management Information Systems
- 4304 Marketing and Distribution
- 4305 Marketing Management and Research
- 4399 Business Fields - Other