

**LOUISIANA EDUCATION QUALITY SUPPORT FUND (LEQSF)**  
**LONG-RANGE STRATEGIC PLAN**  
**FOR HIGHER EDUCATION**

**Board of Regents**  
**State of Louisiana**

**(Adopted 1988; Revised 1993)**  
**(#SP93)**

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**LOUISIANA EDUCATION QUALITY SUPPORT FUND**  
**LONG-RANGE STRATEGIC PLAN FOR HIGHER EDUCATION**

**I. OVERVIEW AND BACKGROUND INFORMATION**

In September 1986, by overwhelming voter support, Section 10.1. was added to Article VII of the Louisiana Constitution to place the bulk of the proceeds from the State's share of the settlement of disputed off-shore oil and gas revenues into a permanent trust fund for education called the "Louisiana Education Quality Trust Fund." Until the Trust Fund reaches a cap of \$2 billion, 25% of the interest earnings on the Fund and 25% of recurring oil and gas revenues produced in the so-called 8(g) section of the Outer Continental Shelf Lands Act will be returned to the Trust Fund. The amendment also provided for placing the remaining 75% of the interest earnings from the permanent Trust Fund and related royalty income into a separate Louisiana Education Quality Support Fund (LEQSF), for use in enhancing education at all levels within the State. The amendment further stipulated that:

The treasurer shall disburse not more than fifty percent of the monies in the Support Fund as that money is appropriated by the legislature and allocated by the Board of Regents for any or all of the following higher educational purposes to enhance economic development:

- The carefully defined research efforts of public and private universities in Louisiana.
- The endowment of chairs for eminent scholars.
- The enhancement of the quality of academic, research or agricultural departments or units within a university. These funds shall not be used for athletic purposes and programs.
- The recruitment of superior graduate students.

The money available to higher education from the Support Fund each year is appropriated by the Legislature to the Board of Regents, which then allocates it to these four programs.

With the approval of the Legislature and the Governor, the Board of Regents has the authority and responsibility to distribute money among the four designated Program components and to target the areas of basic and applied research and academic disciplines to be supported. To guide it in making these decisions, the Board

created two committees: (1) the LEQSF Advisory Committee, which meets once or twice annually and contains both in- and out-of-state experts to provide a broad State, national, and global perspective on LEQSF Program goals and operations; and (2) the LEQSF Planning Committee, which meets frequently throughout the year and is broadly representative of higher education statewide, as well as of State agencies whose missions are relevant and important to accomplishing the goals of the LEQSF Program. The LEQSF Planning Committee is the Board's committee of "original jurisdiction" and is comprised of four working subcommittees: Strategic Planning, Implementation, Evaluation, and Louisiana Stimulus for Excellence in Research (LaSER).\*

Shortly after the Constitution was amended to create the Funds, the Board requested the LEQSF Planning Committee to develop recommendations for a long-range plan. The 1988 Strategic Plan which resulted rested on extensive background research\*\* and relied heavily upon the findings reported in Louisiana Higher Education and Economic Development: Prosperity Through Academic Excellence, a "White Paper" prepared in 1987 by the LaSER Subcommittee at the request of the Board. As stipulated by the Board, the White Paper addressed four specific issues:

- The manner in which the enhancement of higher education research and instructional programs can most effectively promote economic development;
- The short-term and long-range priorities for the enhancement of programs, research, and economic development;
- The manner in which the four mandated LEQSF programs should be interrelated in pursuing the general objectives of enhancing instructional programs and research and promoting economic development; and,
- The manner in which the constituent units involved in the LEQSF (Board of Regents, its advisory committees, the individual campuses, out-of-state experts,

\*A chart which indicates the organizational structure of these and other committees, as well as descriptions of major functions, are located on pp. 16-19.

\*\*The 1988 LEQSF Strategic Plan provides a comprehensive explanation of the extensive background research undertaken to develop the original Plan.

and other entities) could best work together according to a comprehensive schedule.

In the short, six-year history of LEQSF Program operation, some outstanding successes and important results have already accrued to the State directly as a result of the philosophical precepts which underpinned the 1988 Strategic Plan and the manner in which it targeted LEQSF resources.

Since the 1988 Strategic Plan was adopted, however, economic conditions and academic issues have changed somewhat, and new issues have arisen. Additionally, in the past six years the Board and its Planning and Advisory Committees have gained considerable knowledge and collected extensive Program and project-specific data, from which suggestions have emanated for updating and refining the goals and strategies of the 1988 Strategic Plan. Some new directions have also been suggested for better focusing the LEQSF Programs.

As a result of these developments, the Board realized the need to revisit its long-range Strategic Plan to ensure that the goals it had established were still appropriate for today's economic and academic climates, as well as to review the efficacy of the strategies set forth therein for accomplishing those goals. Accordingly, in 1993 the Board requested the LEQSF Planning Committee to carefully review the 1988 Strategic Plan and recommend revisions as necessary. The 1993 LEQSF Long-Range Strategic Plan for Higher Education (hereinafter sometimes referred to as the Strategic Plan) is the result of that effort.

## II. GUIDING PRINCIPLES

The following precepts underpin the LEQSF Long-Range Strategic Plan for Higher Education:

- A sound educational system at all levels and in all disciplines--which is well-supported on a consistent basis--is crucial to enhancing academic programs and

units and promoting economic development, the two goals of the Constitutional amendment which created the LEQSF.

- Realization of the full benefit of investment in higher education is a long-term proposition and final results only become obvious after a period of years.
- To achieve excellence, the LEQSF Program must build on Louisiana's strengths. All Louisiana institutions of higher education--large and small, graduate and undergraduate, public and independent, predominantly black or predominantly white--are encouraged to conduct careful self-studies in light of their missions and degree offerings to identify their strongest programs and develop plans to build them into excellent programs.
- There are no quick and easy solutions to economic development problems. Louisiana must continue to develop its research infrastructure, not only to build on existing educational and economic strengths, but also to capitalize on new opportunities which change may present.
- One-third of Louisiana's population is minority, the second highest proportion of minority populations in the United States. If Louisiana is to become economically successful, it must provide an excellent science and engineering education for its minority population. The promotion of close cooperation and resource sharing among majority and minority institutions in the State, aimed at enhancing educational opportunity for minority populations, is a high priority for LEQSF Programs.
- To achieve the goals set forth in this Strategic Plan, the distribution of LEQSF money must be depoliticized through a merit-based peer review process, using out-of-state experts and national standards of excellence.
- LEQSF Programs must be carefully targeted to maximize educational and economic progress.

### **III. LEQSF LONG-RANGE STRATEGIC PLAN FOR HIGHER EDUCATION**

#### **A. MISSION**

The mission of the overall LEQSF Program is to improve education at all levels, advance literacy, and strengthen the economic diversity and global competitiveness of Louisiana. The higher education component of the Program is focused on the enhancement of academic and research efforts of institutions of higher education in a manner which promotes that mission. This is achieved through support of basic research, encouragement of ties with Louisiana business and industry, and education of a competent workforce within the student population of our colleges and universities.

#### **B. GOALS**

The LEQSF Program goals are to:

- Develop and maintain international excellence and a competitive position in basic research in those disciplines critical to the State's economy;
- Educate students at both undergraduate and graduate levels in order to prepare large numbers of highly skilled and liberally educated citizens, particularly scientists and engineers;
- Develop and deliver intensive programs in scientific and cultural literacy on the undergraduate level for all students; and,
- Develop teacher education programs to produce highly skilled science, mathematics, English and foreign language teachers.

#### **C. STRATEGIES**

The strategies that will be employed to accomplish the LEQSF Program goals are to:

- Provide funding for departmental enhancement, including instructional enhancement, research resources, and interinstitutional program enhancement;

- Provide funding for research, both basic and industry-driven/applied;
- Provide funding for the recruitment of outstanding graduate students;
- Provide funding for endowed chairs and professorships to accelerate the recruitment of scholars who will contribute to the enhancement of the overall infrastructure of education in Louisiana; and,
- Provide funding for the adequate administration and evaluation of the above strategies.

**D. TARGETS OF OPPORTUNITY FOR ECONOMIC DEVELOPMENT; ACADEMIC DISCIPLINES WHICH MUST ACHIEVE EXCELLENCE**

**1. ECONOMIC TARGET AREAS**

Many areas have been cited as potential targets of opportunity for economic development in Louisiana. Under the LEQSF Industrial Ties Research Subprogram (ITRS)--in which the focus is on target areas rather than academic disciplines--the Board solicits proposals in any research area that will promote near-term economic development and/or diversification in the State. Annually in its ITRS request for proposals, the Board also provides information from the Louisiana Department of Economic Development (DED) relative to suggested target areas which DED deems of high priority.

**2. ACADEMIC DISCIPLINES**

All disciplines are eligible to compete in the LEQSF Graduate Fellows, Enhancement, and Endowed Chairs components,\* thus reflecting the Board's broad and long-range commitment to strengthen all academic disciplines and, in so doing, to enhance higher education, one of the Constitutional mandates that created the Program. Because of the twin Constitutional

\*Unlike the other three programs, competition in the LEQSF Research Competitiveness Subprogram (RCS)--one of two subprograms that constitute the LEQSF R & D Program component--is restricted to those disciplines where the promotion of basic and applied research is essential for long- or short-term economic development. As indicated in the preceding paragraph, the other subprogram of the LEQSF R & D Program component, the ITRS, concentrates on current targets of opportunity for economic development in Louisiana.



mandate to promote economic development, however, it is equally important that LEQSF emphasize those academic disciplines that tend to have a direct impact on technological and economic development and are critically important to the education of scientists, engineers, and entrepreneurs. The implementation schedules included in this Plan for the various LEQSF Program components reflect the academic disciplines that are the primary targets of LEQSF support through the frequency with which they are eligible to compete.

The major categories of academic disciplines included in the implementation schedules include: natural sciences (biological, physical, computational, and earth/environmental); engineering; social sciences; humanities and arts; education; and business. A breakdown of all the disciplines included in these major categories is provided in the taxonomy in Appendix A.

## **E. LEQSF PROGRAM COMPONENTS**

### **1. R & D COMPONENT**

#### **a. Research Competitiveness Subprogram: Basic Research Competitiveness**

Leveraging LEQSF money through continued, consistent levels of funding for grants will assist Louisiana scientists and engineers in the early stages of their research careers to become more competitive in acquiring Federal research and development funds. This is the goal of the Research Competitiveness Subprogram (RCS).

Predicting from year to year the emerging technologies that will be at the cutting edge of basic research is an extremely difficult proposition. Further, enhancement of basic research in most scientific or engineering fields will create an impact at least on one, and more typically on several, of Louisiana's major economic and

resource areas: oil and gas; chemicals and materials; information and control systems; biotechnology; agriculture/forestry; aquatic resources; health care; tourism; environmental resources; and internationalization of Louisiana business. Hence, basic research funds will be reserved for scientific and engineering fields, including social sciences as defined by NSF, agriculture, and health and medical sciences.

The peer-based merit review of LEQSF grant proposals by outstanding out-of-state scientists, engineers, and scholars--who themselves typically receive significant levels of Federal funding--is the most effective way to depoliticize the evaluation and award processes. The RCS focuses on the ability of researchers in the early stages of their careers to become nationally competitive within a specific period; through this Program, the Support Fund will build educational strength and move these and other scientists toward national eminence.

The following table indicates those disciplines in which RCS proposals were accepted and funded from award years 1991 through 1993, as well as those disciplines in which proposals may be submitted for funding consideration through award year 2000. These disciplines are considered important for the State's long-term economic development and educational advancement. Although all the disciplines listed were eligible for funding during the first two years of LEQSF Program operation (i.e., FYs 1986-87 and 1987-88), the need to target resources to promote economic development, limitations on the amount of money available, and the pressure of a large number of proposals suggested the need to make most disciplines eligible on a staggered

basis. Only three disciplines which have been accorded a high priority for economic development (biological, earth/environmental sciences, and computer and information sciences) are targeted for funding annually. Because of the extreme difficulty in predicting emerging technologies at the cutting edge of basic research, the Board may expand the range of disciplines eligible for competition in a given year.

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RESEARCH COMPETITIVENESS SUBPROGRAM*	Award Year									
	91	92	93	94	95	96	97	98	99	00
Natural Sciences--Physical										
Chemistry			x	x			x	x		
Physics & Astronomy	x	x			x	x			x	x
Natural Sciences--Computational										
Computer & Information			x	x	x	x	x	x	x	x
Mathematics	x	x			x	x			x	x
Natural Sciences--Earth/										
Environmental Sciences	x	x	x	x	x	x	x	x	x	x
Natural Sciences--Biological										
Agriculture	x	x			x	x			x	x
Biological	x	x	x	x	x	x	x	x	x	x
Health & Medical			x	x			x	x		
Engineering										
Engineering A	x	x			x	x			x	x
Engineering B			x	x			x	x		
Social Sciences	x	x			x	x			x	x
Number of Disciplines	7	7	6	6	8	8	6	6	8	8

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\*See Appendix A for a listing of those disciplines which are included in these larger groupings.

**b. Industrial Ties Research Subprogram: Applied Research**

University/industry collaborative research grants are provided under the Industrial Ties Research Subprogram (ITRS) to enhance the competitiveness of Louisiana companies and industry. While a solid basic research infrastructure is necessary for economic progress, it is not sufficient. The research capability of colleges and

universities must be made available to and utilized by business to enhance competitiveness.

Programs to leverage LEQSF money are used to foster closer university/industry collaborative efforts. By careful industrial targeting and the use of eminent out-of-state reviewers, the proposal evaluation and award processes are depoliticized to assure that money is invested in projects that build on Louisiana's academic and economic strengths and opportunities.

In the hope that no such opportunities will be overlooked, all research areas that will promote near-term economic development and diversification in the State are eligible every year. For informational purposes, the Louisiana Department of Economic Development annually provides--through the ITRS RFP--a list of suggested target areas which it deems of high priority.

## **2. ENHANCEMENT OF DEPARTMENTS AND UNITS COMPONENT**

### **a. Instructional Enhancement**

Under the LEQSF Enhancement component, departmental grants are provided to Louisiana institutions of higher education to enhance instructional efforts in ways that will increase, at both undergraduate and graduate levels, the quality and quantity of scientists and engineers; science, mathematics, English, and foreign language teachers; and scientific and engineering entrepreneurs.

Enhancement grants may be used to purchase instructional equipment and instrumentation, including computing equipment, or to support instructional improvement programs, curriculum revision projects, collaborative projects between business schools and science/engineering departments, collaborative projects between

universities and colleges, or any other activity likely to enhance a department or unit's ability to recruit, develop, and retain individuals in the targeted groups.

Proposals that promote significant interinstitutional cooperation which results in the sharing of scarce State resources are particularly encouraged in the LEQSF Enhancement component. The creation of linkages between historically black colleges and universities (HBCUs) and non-HBCUs are especially encouraged. Priority is accorded where there is potential for regional and/or national eminence, commensurate with the submitting institutions' degree offerings.

Proposals are reviewed by outstanding out-of-state scientists, engineers, science and engineering administrators, scholars from other representative disciplines, and representatives from industry. All reviewers have national reputations and employ national standards of excellence in the review process.

Each year the LEQSF Planning Committee will work with representatives of the Board of Elementary and Secondary Education to coordinate plans for enhancing educational programs for science, mathematics, foreign language, and English teachers.

b. Research Enhancement

Enhancement grants are also available for critical research resources, including state-of-the-art equipment and instrumentation and library resource materials. The purpose of research enhancement is to strengthen the ability of departments or units to increase their competitiveness in acquiring Federal and/or industrial research funds. Projects involving collaboration between departments and colleges

within a university, and/or between or among two or more universities in Louisiana, particularly those between HBCUs and non-HBCUs, are strongly encouraged.

The following table indicates disciplines that were eligible for funding consideration under the Enhancement component during award years 1991 through 1993, as well as disciplines eligible to submit proposals through award year 2000. Some disciplines are eligible more frequently because of their importance to economic development.

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**DEPARTMENTAL ENHANCEMENT\***

	Award Year									
	91	92	93	94	95	96	97	98	99	00
Natural Sciences--Physical										
Chemistry			x			x			x	
Physics & Astronomy			x			x			x	
Natural Sciences--Computational										
Computer & Information	x			x			x			x
Mathematics			x			x			x	
Natural Sciences--Earth/										
Environmental Sciences		x			x			x		
Natural Sciences--Biological										
Agriculture		x			x			x		
Biological	x			x			x			x
Health & Medical		x			x			x		
Engineering										
Engineering A		x			x			x		
Engineering B	x			x			x			x
Business			x			x			x	
Social Sciences	x			x			x			x
Education, including Literacy**			x			x			x	
Arts		x			x			x		
Humanities	x			x			x			x
Number of Disciplines	5	5	5	5	5	5	5	5	5	5

\*See Appendix A for a listing of those disciplines which are included in these larger groupings.

\*\*Literacy is highlighted as a focal area within Education, because of Louisiana's unusually high illiteracy rate.

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### 3. GRADUATE FELLOWS COMPONENT

The goals of the Graduate Fellows component are: (1) to elevate to higher levels of performance departments or units which have attained--or which show clear promise of attaining--regional, national, or international standards of eminence commensurate with their degree offerings; and (2) to elevate to higher levels of performance departments or units which have promoted--or which show clear promise of promoting--economic development in the State.

Graduate stipends or fellowships are available to recruit or retain outstanding graduate students in all disciplines critical to Louisiana's economy, especially science, engineering, and business disciplines. Although priority is given to proposals for doctoral study, support for master's programs in areas critical to the State are also important; one-year graduate fellowships for teachers are included among these master's-level programs. Proposals are reviewed for merit, using outstanding scientists, engineers, and scholars in academia and/or industry from outside of Louisiana.

The following table indicates disciplines that were eligible for funding consideration in award years 1991 through 1993 under the Graduate Fellows component, as well as those disciplines eligible through award year 2000. Some disciplines are eligible more frequently because of their importance to economic development.

GRADUATE RECRUITMENT*	Solicitation Year									
	91	92	93	94	95	96	97	98	99	00
Natural Sciences--Physical										
Chemistry	x	x	x	x	x	x	x	x	x	x
Physics & Astronomy	x	x	x	x	x	x	x	x	x	x
Natural Sciences--Computational										
Computer & Information			x	x	x	x	x	x	x	x
Mathematics			x	x	x				x	x
Natural Sciences--Earth/ Environmental Sciences	x	x	x	x	x	x	x	x	x	x
Natural Sciences--Biological										
Agriculture			x	x	x				x	x
Biological	x	x	x	x	x	x	x	x	x	x
Health & Medical			x	x	x				x	x
Engineering	x	x	x	x	x	x	x	x	x	x
Business			x	x	x				x	x
Social Sciences	x	x				x	x	x		
Education			x	x	x				x	x
Arts	x	x				x	x	x		
Humanities	x	x				x	x	x		
Number of Disciplines	8	8	11	11	11	9	9	9	11	11

\*See Appendix A for a listing of those disciplines which are included in these larger groupings.

#### 4. ENDOWED CHAIRS COMPONENT

The goal of the Endowed Chairs component is to assist colleges and universities in attracting eminent scholars who, over the long term, will contribute significantly to the enhancement of the overall infrastructure of higher education in Louisiana. The Program is highly leveraged by its requirement of a 3:2 private-sector match.

#### F. ADMINISTRATION AND COORDINATION OF LEQSF PROGRAMS

In administering and coordinating the LEQSF Programs, the Board--through its LEQSF Advisory and Planning Committees--will undertake the following activities:

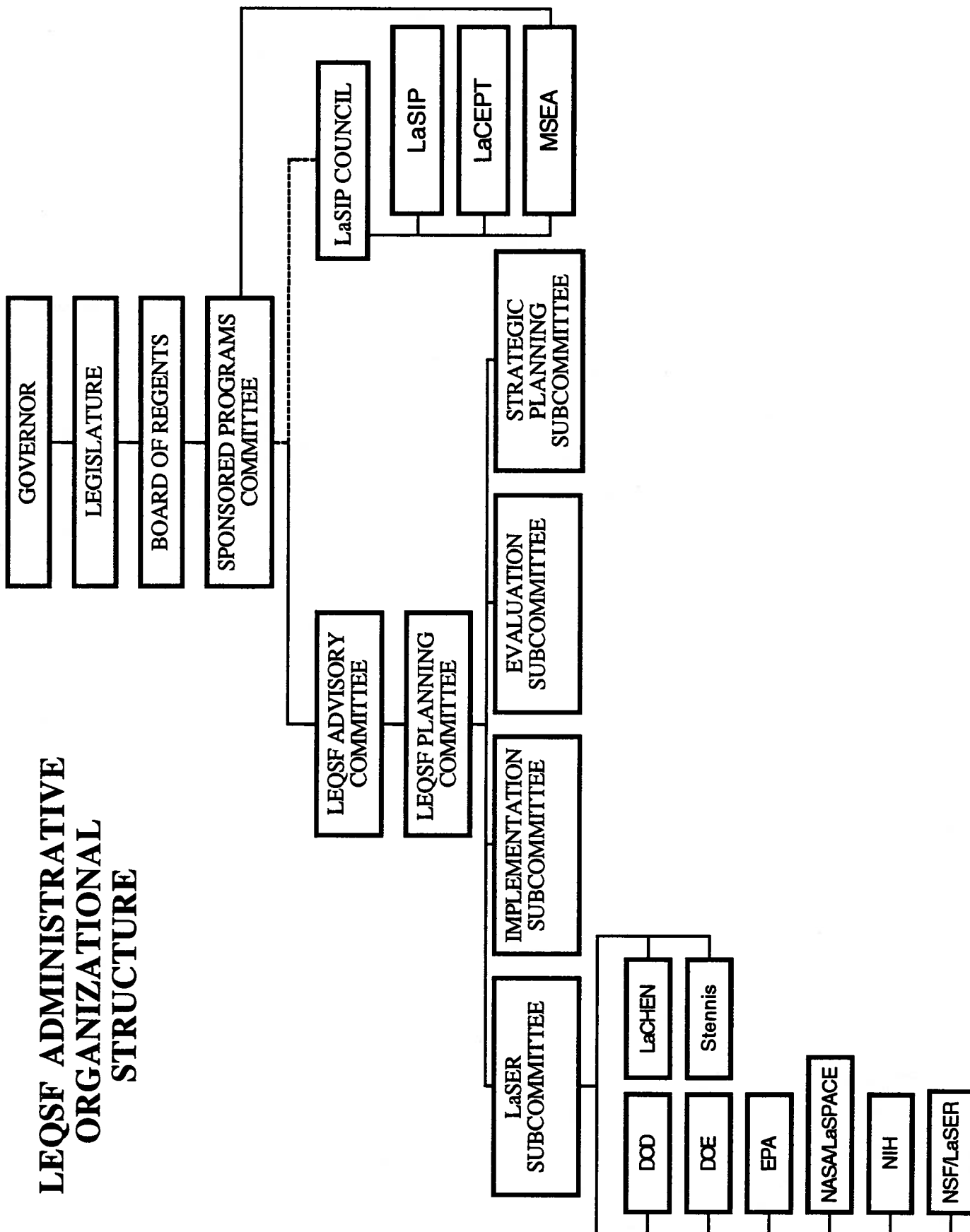
- Annually review the LEQSF Program components, in response to ongoing evaluations, and update the Strategic Plan on a regular basis;



- Review and refine RFPs, reviewer guidelines, criteria and analysis forms;
- Organize industrial task forces and use the input of these task forces to suggest revisions in Program goals and targets;
- Seek large grants from the Federal government, industry, and national foundations to supplement and leverage LEQSF money;
- Promote interinstitutional cooperation and collaboration among Louisiana's colleges and universities, particularly between HBCUs and non-HBCUs, as well as with elementary, secondary, and vocational-technical schools; and
- Build relationships with State agencies with similar goals.

The Board utilizes the following organizational structure in its administration of the LEQSF Programs:

## LEQSF ADMINISTRATIVE ORGANIZATIONAL STRUCTURE



- **LEQSF Advisory Committee**

Consisting of representatives of the Board of Regents' staff, the State's three public systems of higher education, the Louisiana Association of Independent Colleges and Universities (LAICU), the Governor's office, the Louisiana Senate, the Louisiana House of Representatives, the National Academy of Engineering, the National Academy of Sciences, and the American Council of Learned Societies, the Advisory Committee counsels the Board on matters of broad policy and/or directional shifts in the LEQSF Program, including assessments of the Constitutionally-required annual LEQSF Plan and Budget. It normally meets once or twice a year.

- **LEQSF Planning Committee**

Consisting of representatives from each of the State's three public systems of higher education, LAICU, delegates of State agencies with similar missions, leaders in business and industry, and representatives from the Louisiana Universities Marine Consortium (LUMCON), Louisiana Endowment for the Humanities, and the Department of Economic Development, the Planning Committee advises the Board on a wide variety of issues with both short-term and long-term implications. Its tasks include, but are not limited to, the development of recommendations for the annual LEQSF Plan and Budget and the long-range LEQSF Strategic Plan. It also provides oversight for recommendations which emanate from its working subcommittees, listed below. The Planning Committee meets frequently throughout the year, as demands dictate.

- **Strategic Planning Subcommittee**

This subcommittee formulates the initial recommendations relative to the allocation of LEQSF money across Program components. Work on major projects such as the annual LEQSF Plan and Budget and the Strategic Plan begins here. This subcommittee also makes recommendations with respect to a wide variety of policy issues which generally originate in this subcommittee.

- **Implementation Subcommittee**

This subcommittee devotes its attention to ensuring that the policies established by the Board are implemented in all working documents, such as requests for proposals (RFPs) and proposal evaluation forms.

- **Evaluation Subcommittee**

This subcommittee develops plans and tests mechanisms to evaluate the programs put into place by the Board to accomplish the LEQSF Constitutional mandates. It oversees the implementation of the evaluation plan. The evaluation subcommittee also reviews consultants' reports to assist it in developing and refining reporting forms for funded projects.

- LaSER Subcommittee

This subcommittee, originally created by NSF under its Experimental Program to Stimulate Competitive Research (EPSCoR) to develop a plan/proposal to improve Louisiana's competitive posture in the NSF R & D marketplace, was institutionalized by the Regents in 1987 as its science and engineering advisory body. As one of the four permanent standing subcommittees of the LEQSF Planning Committee, the LaSER Subcommittee--in addition to closely supervising the three-year NSF/LaSER grant--now also oversees the activities of all the non-permanent committees created to participate in other Federal EPSCoR programs, including those sponsored by the National Aeronautics and Space Administration (NASA), the U.S. Department of Energy (DOE), the Environmental Protection Agency (EPA), the Department of Defense (DOD), and the National Institutes of Health (NIH). The LaSER Subcommittee also sponsors statewide seminars designed to improve Louisiana's research competitiveness in the sciences and engineering and to enhance the grantsmanship skills of Louisiana's faculty members.

**NOTE:** The LEQSF Advisory and Planning Committees and each of the subcommittees included on the organizational chart are permanent bodies. The six project-specific entities grouped under the LaSER Subcommittee (DOD, DOE, EPA, NASA/LaSPACE, NIH, and NSF/LaSER) are non-permanent committees with designated missions of securing planning and implementation grants from their respective Federal agencies. Also reporting to the LaSER Subcommittee are the Louisiana Consortium for Higher Education Networking (LaCHEN), funded by the National Science Foundation and working to coordinate information networking between Louisiana higher education institutions as well as among various agencies of the State government, and the Stennis Research Consortium located at the Board of Regents, which has a research contract to provide designated services from Louisiana faculty to the Stennis Space Center in Mississippi.

- LaSIP Council

Consisting of broad-based representation from all levels of the State's educational community and created by Executive Order, the LaSIP Council coordinates the Louisiana Systemic Initiatives Project (LaSIP) effort to reform the methods of instruction and learning in mathematics, science, and engineering education. It also oversees projects funded under higher education's portion of the Eisenhower Mathematics and Science Education Act (MSEA) Program. Except to the extent to which it is accountable to the Board of Regents for expenditure of the MSEA money, and except to the extent that it is

accountable to the Board of Elementary and Secondary Education (BESE) and the Board of Regents for expenditure of the LEQSF money--which both groups provided to satisfy NSF's state matching requirement--the LaSIP Council is an independent body.

**NOTE:** The LaSIP Council described in the organizational chart is a permanent body; the organizational chart also includes, however, a number of project-specific entities. The three grouped under the LaSIP Council are LaSIP, the Louisiana Collaborative for Excellence in the Preparation of Teachers (LaCEPT), and MSEA. The NSF/LEQSF/U.S.-Department-of-Education-funded LaSIP project is specifically charged with implementing the statewide systemic reform of science, mathematics, and engineering education, focusing on summer programs for current teachers, while the NSF/LEQSF-funded LaCEPT seeks to achieve similar ends through a concentration on students in teacher education programs at Louisiana colleges and universities. The U.S.-Department-of-Education-funded MSEA, a program for enhancing the skills of practicing science and mathematics teachers, existed prior to LaSIP and has been integrated as closely as possible within it.

## APPENDIX A

TAXONOMY OF DISCIPLINES  
USED IN THE  
LOUISIANA EDUCATION QUALITY SUPPORT FUND PROGRAMS

NATURAL SCIENCES - BIOLOGICAL  
(CONTINUED)

**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

**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

5101 Interdisciplinary Programs

**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

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

(TAXONOMY.WP #240)