BOARD OF SUPERVISORS FOR THE 
UNIVERSITY OF LOUISIANA SYSTEM 

ACADEMIC AND STUDENT AFFAIRS COMMITTEE

April 20, 2017

Item G.1. Grambling State University’s request for approval to award an Honorary Doctorate of Humane Letters to Mr. Marc H. Morial at the Spring Commencement Exercises.

EXECUTIVE SUMMARY

Grambling State University (GSU) is requesting approval to award an Honorary Doctorate of Humane Letters to Mr. Marc H. Morial. Mr. Morial has served as President and Chief Executive Officer of the National Urban League since 2003. He has been the primary catalyst for an era of change – a transformation for the 100-year-old civil rights organization. Mr. Morial’s energetic and skilled leadership has expanded the League’s work around an Empowerment agenda which is redefining civil rights in the 21st century with a renewed emphasis on closing the economic gap between Whites and Blacks as well as rich and poor Americans. Today, the National Urban League influences more than 2 million people nationwide with their direct services which impact and improve their lives.

Mr. Morial’s professional career has spanned over 25 years. He has distinguished himself as a lawyer, professor, Louisiana State Senator and Mayor of New Orleans. As Mayor, he was a popular chief executive with a broad multi-racial coalition who led New Orleans’ 1990’s renaissance, and left office with a 70% approval rating.

Grambling State University wishes to recognize and honor Mr. Morial for his outstanding leadership in our state and for his life-time work of helping the poor and disadvantaged in our country, by bestowing upon him the honorary degree, Doctor of Humane Letters.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves Grambling State University’s request to award an Honorary Doctorate of Humane Letters to Mr. Marc H. Morial at the Spring Commencement Exercises.
MEMORANDUM TO THE BOARD OF SUPERVISORS OF THE UNIVERSITY OF LOUISIANA SYSTEM

Subject: REQUEST FOR APPROVAL TO CONFER THE HONORARY DEGREE, DOCTOR OF HUMANE LETTERS ON MR. MARC H. MORIAL

Grambling State University respectfully requests approval to confer the honorary degree, Doctor of Humane Letters, on Mr. Marc H. Morial at our May 12, 2017 commencement.

Mr. Morial has served as President and Chief Executive Officer of the National Urban League since 2003. He has been the primary catalyst for an era of change – a transformation for the 100-year old civil rights organization. His energetic and skilled leadership has expanded the League’s work around an Empowerment agenda, which is redefining civil rights in the 21st century with a renewed emphasis on closing the economic gaps between Whites and Blacks as well as rich and poor Americans.

Today, the National Urban League influences more than 2 million people nationwide with their direct services which impact and improve their lives.

Mr. Morial’s professional career has spanned over 25 years. He has distinguished himself as a lawyer, Professor, Louisiana State Senator and Mayor of New Orleans.

As Mayor, he was a popular chief executive with a broad multi-racial coalition who led New Orleans’ 1990’s renaissance, and left office with a 70% approval rating.

Grambling State University wishes to recognize and honor Mr. Morial for his outstanding leadership in our state and for his life-time work of helping the poor and disadvantaged in our country, by bestowing upon him the honorary degree, Doctor of Humane Letters.

Your favorable consideration of this request would be appreciated.

Sincerely,

[Signature]

Richard J. Gallot, Jr., JD
President

RJG:jp
Marc H. Morial - Bio

Entrepreneur. Lawyer. Professor. Legislator. Mayor. President, U.S. Conference of Mayors. President and CEO of the National Urban League, the nation’s largest historic civil rights and urban advocacy organization.

In a distinguished professional career that has spanned 25 years, Marc Morial has performed all of these roles with excellence and is one of the most accomplished servant-leaders in the nation. As President and CEO of the National Urban League since 2003, he has been the primary catalyst for an era of change -- a transformation for the 105-year old civil rights organization. His energetic and skilled leadership has expanded the League’s work around an Empowerment agenda, which is redefining civil rights in the 21st century with a renewed emphasis on closing the economic gaps between whites and Blacks, as well as other communities of color, and rich and poor Americans.

During his tenure, the League had record fundraising success with a 280MM, five-year fundraising effort. He has secured the BBB nonprofit certification, which has established the NUL as a leading national nonprofit, and the coveted 4-star rating from Charity Navigator, which has placed the NUL in the top 10 percent of all U.S. charities for adhering to good governance and other best practices, as well as executing its mission in a fiscally responsible way.

Under his stewardship, the League launched a historic $100 million, five-year “Jobs Rebuild America: Educate, Employ, Empower” initiative in 2013 -- a solutions-based, comprehensive approach to the nation’s employment and education crisis that brings together federal government, business, and nonprofit resources to create economic opportunity in 50 cities across the country through the Urban League affiliate network.

His creativity has led to initiatives such as the Urban Youth Empowerment Program to assist young adults in securing sustainable jobs and Entrepreneurship Centers in 10 cities to help the growth of small businesses. Also, Morial helped create the Urban Empowerment Fund, which will lend to urban impact businesses, and helped create the League’s New Markets Tax Credits initiative, which has resulted in $1 billion in community investment via urban impact businesses, including minority business, through both debt and equity investments.

As mayor of New Orleans, Morial was a popular chief executive with a broad multi-racial coalition who led New Orleans’ 1990’s renaissance and left office with a 70% approval rating.

As a lawyer, Morial won the Louisiana State Bar Association’s Pro Bono Publico Award for his legal service to the poor and disadvantaged. He was also one of the youngest lawyers, at age 26, to argue and win a major case before the Louisiana Supreme Court.

As a professor, Morial served on the adjunct faculty of Xavier University in Louisiana, where he taught Constitutional Law and Business Law.
Item G.2. Louisiana Tech University’s request for approval of the Bachelor of Science in Instrumentation and Control Systems Engineering Technology (ICET) program.

EXECUTIVE SUMMARY

Louisiana Tech University (LA Tech) requests approval to offer the Bachelor of Science (BS) in Instrumentation and Control Systems Engineering Technology (ICET) program. This program will replace LA Tech’s existing Electrical Engineering Technology (ELET) program which has been in the Tech inventory since 1973 in the College of Engineering and Science. With recent changes in faculty expertise and shifts in industrial workforce needs, it was determined that the proposed program would better serve student and industry needs.

The proposed ICET program will serve students interested in the ELET program, as the curricula have significant overlap, but the ICET program will appeal to other potential students as it provides exposure to and broader employment opportunities in other areas of engineering, such as robotics, automation, control, and manufacturing. The proposed 120-credit-hour program is specifically focused on preparing technologists (as opposed to technicians) in this field, thereby being a unique program offering in the State of Louisiana. Further, based on input provided by industry representatives on our advisory boards, the ICET curriculum includes courses in mechanics, fluids, and thermal systems that will prepare graduates to perform design and troubleshooting tasks that would be difficult for individuals without that background.

No additional costs are required to initiate this program since the existing ELET program will be terminated and replaced by the proposed program. Existing faculty are able to provide instructional support required by the courses, and the College recently hired a new faculty member that will help support the proposed program and development of new courses. No new facilities or equipment are expected to be needed for immediate implementation of the proposed program. As well, it is not anticipated that library holdings will need to be expanded or improved to meet the needs of the proposed program.

Over the last year, ELET students have been introduced to this proposed program at their advising sessions; student feelings about the program have been overwhelmingly positive. As prospective students have come to LA Tech for visits, most who see the outline of the proposed program respond very positively. It is believed that half of the students coming into the program will come to the University specifically to be involved with the program and about half will choose the program after deciding that other majors (likely engineering) do not fit them. The University expects initial enrollment to be very similar to the current ELET program. They also
expect that enrollment will grow over the first five years because of the broader attractiveness of
the program as compared to the current ELET program. Initial enrollment is projected to be 15
with that number growing to 100 by year five of program implementation.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the
University of Louisiana System hereby approves Louisiana Tech University's request for
approval of the Bachelor of Science in Instrumentation and Control Systems Engineering
Technology (ICET) program.
March 27, 2017

Dr. Jim Henderson  
President  
University of Louisiana System  
1201 N. 3rd St., Suite 7-300  
Baton Rouge, LA 70802

Dear Dr. Henderson:

Louisiana Tech University requests approval to offer the Bachelor of Science (BS) in Instrumentation and Control Systems Engineering Technology (ICET) program. This program will replace Louisiana Tech’s existing Electrical Engineering Technology (ELET) program which has been in the Tech inventory since 1973 in the College of Engineering and Science. Details about the program are contained in the attached proposal.

The ICET program will serve students interested in the Electrical Engineering Technology (ELET) program, as the curricula have significant overlap, but the ICET program will appeal to other potential students as it provides exposure to and broader employment opportunities in other areas of engineering, such as robotics, automation, control, and manufacturing. The proposed program is specifically focused on preparing technologists, as opposed to technicians, in this field, thereby being a unique programmatic offering in the State of Louisiana. Further, based on input provided by industrial representatives on our advisory boards, the ICET curriculum includes courses in mechanics, fluids, and thermal systems that will prepare graduates to perform design and troubleshooting tasks that would be difficult for individuals without that background.

If the Board of Supervisors approves this program, Louisiana Tech also seeks approval to teach-out and terminate the BS in Electrical Engineering Technology.

We request your consideration of this proposal.

Sincerely,

Leslie K. Guice  
President

attachment
Louisiana Board of Regents

AA 2.05: REQUEST FOR AUTHORITY TO OFFER A NEW DEGREE PROGRAM*
-- Including incremental credentials building up to the Degree --
* Prior to final action by the Board of Regents, no institution may initiate or publicize a new program.*

Date:

Institution: Louisiana Tech University
Requested CIP, Designation, Subject/Title:
15.0406: Automation Engineer Technology/Technician

Contact Person & Contact Info
Dr. Hisham Hegab
Dean, College of Engineering & Science
Louisiana Tech University
Ruston, LA 71270
e-mail: hhegab@latech.edu
phone: (318) 257-3304

Date Letter of Intent was approved by Board of Regents:

Date this Proposal was approved by Governing Board:

Planned Semester/Term & Year to Begin Offering Program: Fall 2017

1. Program Description
Describe the program concept: (a) purpose and objectives; (b) mode of delivery (on-site/hybrid/on-line). Describe plan for developing and rolling out new courses.

The proposed Instrumentation and Control Systems Engineering Technology (ICET) program is proposed as an enhancement and updated replacement of the existing Electrical Engineering Technology (ELET) program that has been in existence in the Tech inventory since 1973. With recent changes in faculty expertise and shifts in industrial workforce needs, it was determined that this proposed program would better serve industry needs and provide greater opportunities for our graduates that are interested in an engineering technology degree.

The proposed ICET program is a four-year program within the College of Engineering and Science at Louisiana Tech. The purpose of the program is to prepare graduates with the technical and managerial skills necessary to enter careers in design, manufacturing, marketing, operations, and maintenance in the fields of measurement, control, robotics, and automation engineering technology. Graduates will be qualified to undertake the design and specification of control systems and for the subsequent management of their installation and operation.

The program will be an on-site program delivered on the Louisiana Tech University campus to utilize available resources fully within the College of Engineering and Science. As described below, the proposed curriculum will utilize a significant portion (~70%) of courses that already exist in the current ELET program.

A new freshman series of engineering technology courses is proposed in the ICET curriculum that are modeled after the College’s current, highly successful project-based freshman engineering curriculum, called Living with the Lab. In addition to exposing and teaching incoming freshman to fundamental skills in this discipline, these new freshman engineering technology courses will provide a mechanism to assist with recruitment and future growth of the program. We have experienced this with other degree programs in the College, such as our freshman engineering program and our computer science/cyber engineering freshman program (Living with Cyber). For example, our Computer Science and Cyber engineering programs have experienced a 55% growth in enrollment in the past two years since we first started and promoted our Living with Cyber freshman curriculum. The proposed ICET curriculum will also include some new upper-level courses in the curriculum that will be rolled out in subsequent years as the initial freshman class progresses through the curriculum. We would teach out existing ELET students
during this same time period though there may be a few existing ELET students (most likely at the freshman level) that would transition into the ICET program immediately.

Map out the proposed curriculum, in sequence, identifying any incremental credentials and/or concentrations within the degree. Indicate which courses will be new, including those that would be offered in the new program as electives. Describe any special requirements (e.g., internships, comprehensive exam, thesis, etc.).

The proposed Instrumentation and Control Systems Engineering Technology degree plan was developed based upon accreditation requirements for such named programs as specified by ABET. The curriculum plan leverages our existing resources in the ELET program as well as our College’s successful freshman curricula in the freshman engineering and computer science programs (i.e., Living with the Lab and Living with Cyber curricula). The table below provides the year-by-year course requirements and also indicates which courses would be new courses.

<table>
<thead>
<tr>
<th>Freshman year</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (GER)</td>
<td>English 101 3</td>
</tr>
<tr>
<td>Humanities (GER)</td>
<td>Communications 101 3</td>
</tr>
<tr>
<td>Mathematics (GER)</td>
<td>Mathematics 101, 112, 220 9</td>
</tr>
<tr>
<td>Natural Sciences (GER)</td>
<td>Physics 209, 210 4</td>
</tr>
<tr>
<td>Chemistry 120, 122</td>
<td>4</td>
</tr>
<tr>
<td>Engineering Technology 120, 121, 122 (New courses, built on the model and using much of the content of the ENGR120,121,122 Living WITH the Lab courses)</td>
<td>6</td>
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<tr>
<td><strong>29</strong></td>
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<table>
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<tr>
<th>Sophomore Year</th>
<th>Semester Hours</th>
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</thead>
<tbody>
<tr>
<td>English (GER)</td>
<td>English 102 3</td>
</tr>
<tr>
<td>Natural Sciences (GER)</td>
<td>Physics 210, 262 4</td>
</tr>
<tr>
<td>Mathematics 224 (New class, minor revision of existing)</td>
<td>4</td>
</tr>
<tr>
<td>Engineering Technology 221, 222, 226 (New Courses, similar content to corresponding ENGR courses and existing ELET labs)</td>
<td>7</td>
</tr>
<tr>
<td>Electrical Engineering Technology</td>
<td>260, 270, 271, 280 10</td>
</tr>
<tr>
<td>Mechanics and Materials 206</td>
<td>3</td>
</tr>
<tr>
<td><strong>31</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social / Behavioral Sciences (GER)</td>
<td>ECON 201, 202, or 215 3</td>
</tr>
<tr>
<td>Engineering Technology 313, 353, 363 (New Courses, similar content to corresponding existing MEMT and MEEEN courses)</td>
<td>9</td>
</tr>
<tr>
<td>Instrumentation and Control Systems Engineering</td>
<td>Technology 422, 423, 460, 451 (New Courses, modified from existing ELET courses) 8</td>
</tr>
<tr>
<td>Electrical Engineering Technology</td>
<td>360, 361 4</td>
</tr>
<tr>
<td>Industrial Engineering 300</td>
<td>2</td>
</tr>
<tr>
<td><strong>26</strong></td>
<td></td>
</tr>
<tr>
<td>Senior Year</td>
<td></td>
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<tr>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Humanities (GER)</td>
<td></td>
</tr>
<tr>
<td>English 303, Communications 377, Elective</td>
<td>9</td>
</tr>
<tr>
<td>Natural Sciences (GER)</td>
<td></td>
</tr>
<tr>
<td>Biological Sciences 101</td>
<td>3</td>
</tr>
<tr>
<td>Fine Arts (GER)</td>
<td>3</td>
</tr>
<tr>
<td>Social / Behavioral Sciences (GER)</td>
<td>3</td>
</tr>
<tr>
<td>Industrial Engineering 416</td>
<td>3</td>
</tr>
<tr>
<td>Instrumentation and Control Systems Engineering</td>
<td></td>
</tr>
<tr>
<td>Technology 470, 471, 475, 476, 477, 486 <em>(New Courses, modified from existing ELET courses)</em></td>
<td>9</td>
</tr>
<tr>
<td>Engineering Technology 472 <em>(New Course, modified from existing ELET courses)</em></td>
<td>1</td>
</tr>
<tr>
<td>Technical Elective*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Hours</strong></td>
<td><strong>120</strong></td>
</tr>
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</table>

New courses are noted in italics. All other courses currently exist.

2. Need

Outline how this program is deemed essential for the wellbeing of the state, region, or academy (e.g., how is it relevant, how does it contribute to economic development or relate to current/evolving needs).

Many industrial processes that have historically been controlled by human operators are now controlled by Programmable Logic Controllers (PLCs). While several two-year programs designed to prepare technicians in this field exist in the state and region, there are no other four-year programs in the State or region that are specifically focused on preparing technologists in this field. A technologist has deeper exposure to the theory involved in these systems, but is still expected to develop the practical skills needed to implement and maintain automatic instrumentation, measurement, and control systems. Feedback from industrial representatives currently on the Louisiana Tech College of Engineering and Science advisory boards have strongly indicated that there is a significant need for a larger regional workforce in this field, and a need for more employees with greater technical depth than two-year degrees can typically provide. Specifically, some of the industrial representatives indicated that more depth was needed in understanding the industrial processes themselves, not just in understanding the measurement and controller technologies. This feedback motivated the inclusion of a few fundamental mechanics and thermal courses in the curriculum; a characteristic that is fairly unique to this program relative to other similar courses of study.

Describe how the program will further the mission of the institution.

Louisiana Tech University has several strong engineering programs, focused on studying physical phenomena with a theoretical and analytical depth and rigor that proves to be a different kind of learning than is anticipated by many students who start those programs. Many of these students still want to do meaningful technical work, but they want it to be more applied and less theoretical. The proposed program is designed to cut across several engineering and technology disciplines so as to be attractive to students with a variety of interests and a desire to go into an applied technology field. It is also designed to make relatively seamless transitions for students transferring out of engineering disciplines. This program will tend to meet the specific needs of a category of Louisiana Tech students, while also preparing those students for high demand jobs.

Identify similar programs in the state and explain why the proposed one is needed; present an argument for a new or additional program of this type and how it will be distinct from existing offerings.

There are several two-year instrumentation degrees in Louisiana, including ones at Delta Community College in Monroe, Northwest Louisiana Technical College in Minden, Delgado Community College in New Orleans, SOWELA in Lake Charles, and SCL Technical College in Morgan City. As a baccalaureate level program, the proposed program will offer additional technical depth and broader development in the
areas of communication and management than these two-year programs. The two year programs are potential feeder programs for the proposed program and articulation programs will be pursued where appropriate.

Northwestern State University (NSU) offers a four-year degree in Electronics Engineering Technology. The proposed ICET program is distinctively different in the depth of technical study, particularly in topics that give students a basis for understanding the industrial processes they seek to instrument and control. Additionally, the ICET curriculum includes courses in mechanics, fluids, and thermal systems that will prepare graduates from the proposed program to perform design and troubleshooting tasks that would be difficult for individuals without that background.

If approved, will the program result in the termination or phasing out of existing programs? (Is it a replacement?) Explain.

The proposed program will result in the phase out and termination of our existing Bachelor of Science in Electrical Engineering Technology (ELET) degree program. The new program would serve students interested in the ELET program as it has significant overlap but would broaden its appeal to other potential students as it would provide exposure and broader employment opportunities that include other areas of engineering such as robotics, automation, control, and manufacturing.

If a Graduate program, cite any pertinent studies or national/state trends indicating need for more graduates in the field. Address possibilities for cooperative programs or collaboration with other institution(s).

N/A. No graduate program is being added.

3. Students
Describe evidence of student interest. Project the source of students (e.g., from existing programs, or the prospects of students being recruited specifically for this program who might not otherwise be attracted to the institution).

Over the last year, ELET students have been introduced to this proposed program at their advising sessions. Student feelings about the program have been overwhelmingly positive at these advising meetings. Several upperclassmen have even stated disappointment that they would be unable to complete their degree under the new program. As prospective students have come to Louisiana Tech for visits, most that see the outline of the proposed program respond very positively. A common factor for the positive responses seems to be the clear career path after graduation (i.e., working with PLCs in industrial settings). It is believed that about half of the students coming into this program will come to the University specifically to be involved with the program and about half will choose the program after deciding that other majors (likely engineering) don’t fit them. Many students who come out of high school with weaker math skills but an interest in high-demand technical fields are likely to choose this program if they decide that engineering is not for them because of the heavy math requirements.

Project enrollment and productivity for the first 5 years, and explain/justify the projections.

We expect initial enrollment to be very similar to the current ELET program. We also expect that the enrollment will grow over the first five years because of the broader attractiveness of the program as compared to the current ELET program. We will also be conducting a recruiting campaign to inform students about the new program. We expect in the first year of offering the program that we will also have several second-year students transfer into the program from the current ELET program as well as from other engineering majors; that is why we are expecting some initial graduates in Year 3 of the program.

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment</td>
<td>15</td>
<td>35</td>
<td>55</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>Graduates</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>
Provide enrollment/completer data for closely related programs currently offered at the institution.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Enrollment</td>
<td>93</td>
<td>88</td>
<td>83</td>
<td>79</td>
<td>65</td>
</tr>
<tr>
<td>Graduates</td>
<td>13</td>
<td>13</td>
<td>27</td>
<td>20</td>
<td>4*</td>
</tr>
</tbody>
</table>

* graduates YTD in 2016-17

What preparation will be necessary for students to enter the program?

In order to start the ICET curriculum on track, students should be ready to enter MATH 101, college algebra. This requires a prerequisite mathematics ACT score of 22 or greater, or a mathematics SAT score of 510 or greater. Students that do not meet this requirement will be placed in MATH 100 (college algebra with supplementary instruction) before entering the ICET courses. Any student who meets the University admission requirements is eligible to start taking other General Education Requirement courses that are part of the curriculum.

If a Graduate program, indicate & discuss sources of financial support for students in the program.

N/A. No graduate program is being added.

4. Faculty

List present faculty members who will be most directly involved in the proposed program: name, present rank; degrees; courses taught; other assignments.

The proposed program will draw from faculty from the College of Engineering and Science. The current ELET program has two dedicated faculty positions. One of these is currently vacant, and there is an ongoing faculty search to fill (potential new hire listed as Mr. Barrett Routon), and the other position is currently filled with a visiting faculty member. This is a particularly opportune time to make the transition for the current ELET program to the proposed Instrumentation and Controls Systems Engineering Technology program. There are additional Electrical Engineering faculty who have also supported the program by offering several of the core courses in the curriculum. With the change in curriculum to include other disciplinary areas such as mechanics, fluids, and thermal systems, there are existing Mechanical Engineering faculty who will also provide some support to the proposed program. The table below provides the current faculty who would be involved in the proposed program along with the dedicated ELET positions that would now be dedicated to the ICET program.

<table>
<thead>
<tr>
<th>Name</th>
<th>Present Rank &amp; Field</th>
<th>Degrees &amp; Granting Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Michael Swanbom, ICET Program Chair</td>
<td>Senior Lecturer, Mechanical Engineering</td>
<td>BS LeTourneau University, PhD Louisiana Tech University</td>
</tr>
<tr>
<td>Dr. Prashanna Bhattarai</td>
<td>Visiting Lecturer, Electrical Engineering &amp; Electrical Engineering Technology</td>
<td>BS EE Tribhuvan University, Nepal, MSEE Louisiana State University, PhD Louisiana State University</td>
</tr>
<tr>
<td>Dr. Davis Harbour</td>
<td>Senior Lecturer, Electrical Engineering</td>
<td>BSEE University of Oklahoma, MSEE University of Oklahoma, PhD EE University of Arkansas</td>
</tr>
<tr>
<td>Dr. Mickey Cox</td>
<td>Professor, Electrical Engineering</td>
<td>BSEE Louisiana Tech University, MSEE Louisiana Tech University, PhD EE Louisiana State University</td>
</tr>
<tr>
<td>Dr. Will Long (new hire-start Fall 2017)</td>
<td>Lecturer, Mechanical Engineering</td>
<td>BSME Louisiana Tech University, MSME Mississippi State University</td>
</tr>
</tbody>
</table>
Dr. Miguel Gates
Lecturer, Electrical Engineering & Electrical Engineering Technology
BS Computer Engr. Jackson State University
MS Computer Engr. Jackson State University
PhD Engineering Louisiana Tech University

Mr. Barrett Routon
(proposed new hire Fall 2017)
Instructor, Instrumentation & Control Systems Engr. Technology
BSEE Louisiana Tech University
MSEE Louisiana Tech University

Project the number of new faculty members needed to initiate the program for each of the first five years. If it will be absorbed in whole or part by current faculty, explain how this will be done. Explain any special needs.

The proposed program can be initiated and sustained with the current faculty by using the existing faculty openings in the ELET program. Many of the courses listed in Section 1 are already taught and regularly serve existing undergraduate programs within the College. The College has also made recent hires in the mechanical engineering faculty that will help support some of the new courses in the proposed program. Further strengthening of the program would be achieved through replacing faculty members who retire or resign with persons whose training and expertise directly complement the proposed program.

Describe involvement of faculty - present and projected - in research, extension, and other activities and the relationship of these activities to teaching load. For proposed new faculty, describe qualifications and/or strengths needed.

The faculty teaching in this program will be nearly exclusively dedicated to teaching. These faculty will be hired at the Lecturer or Instructor rank (as their education and experience warrant). The minimum educational attainment that will be sought is a Master of Science in a closely related field with preference for faculty having a doctoral degree. Additionally, rich industrial experience in the use of related technologies is seen as a strong asset in potential faculty candidates.

5. Library and Other Special Resources
Are present library holdings in related fields adequate to initiate the program? To meet program needs in the first 5 years, what will be needed? Do other institutions have library resources available to faculty & students for the proposed program?

Current library holdings are adequate to initiate the program. The types of sources needed for this program are quite similar to those needed for the ELET and ELEN programs. Few, if any, additional library resources will be needed even during and after five years.

Prescott Memorial Library of Louisiana Tech has significant resources which will contribute to the proposed program. The library provides a wide array of resources and services, including an increasing number of services that are delivered electronically. Traditional resources include 460,000 books, 570,000 microforms, and 2,000 periodical subscriptions. The Interlibrary Services department provides rapid response to requests by using a web request form. Digital technologies are used to provide Internet document delivery, and a statewide courier service provides book delivery. The library provides access to specialized databases and electronic resources specifically for the College of Engineering and Science. Some which are relevant to the proposed program include:

ACS Publications – full text articles of all journals published by American Chemical Society
Computer Science Index – covers journals and professional publications in computer science including over 6,500 periodicals and books
Engineering Village 2 – comprehensive index to all major fields of engineering including journal articles, technical reports, books, conference proceedings and patents
IEEE Xplore – access to IEEE and IET transactions, journals, magazines and conference proceedings
IMechE Proceedings – access to over 200,000 pages of proceedings from Institution of Mechanical Engineers
Knovel – electronic book databased offering access to over 500 scientific and engineering reference resources
Science and Technology Collection – over 830 leading journals and more than 1,740 publications covering
aspects of the scientific and technical community

**Scope** – index of scientific, technical, medical, and social science disciplines covering 1996-present.

Indicate/estimate total expenditure for the last two fiscal years in library acquisitions for fields or departments offering or related to the proposed program.

We do not anticipate that library holding will need to be expanded or improved to meet the needs of the proposed program.

Project library expenditures needed for the first 5 years of the program.

No additional expenditures anticipated.

What additional special resources, other than library holdings, will be needed?

Existing equipment, facilities, and faculty will be used to start the proposed program, so no special resources will be needed for its initiation. Enhancements to existing equipment and facilities will be pursued through State and federal programs. As previously mentioned, further strengthening and enhancement of program faculty would be achieved through replacing faculty members who retire or resigned with person whose training and expertise directly complement the proposed program.

6. Facilities and Equipment

Describe existing facilities (classrooms, labs, offices, etc) available for the program. Describe present utilization of these facilities that are assigned to the sponsoring department.

Classrooms for the proposed program will primarily be located in Nethken Hall on the main Louisiana Tech campus where Electrical Engineering, Electrical Engineering Technology, and Computer Science programs are currently located. The current ELET laboratories will serve the majority of the laboratory courses in the proposed program that involve electrical and control systems technologies. Within Nethken Hall, the ELET program currently has an energy conversion (power) lab, a communications lab, an electronics and measurements lab, a circuits lab, a controls lab, and a senior projects lab space. All of these laboratories have adequate floor size and space to accommodate lab sections of approximately 15 students.

Some of the new courses involving other disciplines will use existing facilities within the mechanical and industrial engineering programs such as their manufacturing labs, materials lab, fluid mechanics lab, and rapid prototyping lab. Additionally, the college has two dedicated freshman engineering lab/classrooms to support the Living with the Lab freshman curriculum which will be used by the proposed freshman curriculum for the ICET program.

The College is anticipating construction of a new 128,000 square foot Integrated Engineering and Science Education building soon. When completed, this building will provide classrooms and laboratories for the freshman and sophomore level curricula for all engineering and science majors within the college. This new facility will greatly expand the available laboratory and classroom space available to support all the programs in the college including the proposed ICET program. This new facility will allow for future growth of the ICET program beyond our initial five year projections.

Describe the need for new facilities (e.g., special buildings, labs, remodeling, construction, equipment), and estimate the cost, proposed sources of funding, and estimated availability for program delivery.

No new facilities are expected to be needed for immediate implementation of the proposed program. As with all other programs within the College, enhancements to the existing facilities will be sought from external sources such as national agencies (NSF, DoD, DoE, etc.) as well as state sources (BoR support fund) and through industrial associations.

7. Administration

In what department, division, school, college, or center/institute will the proposed program be administered? How will the new program affect the present administrative structure of the institution?

The Instrumentation and Controls Systems Engineering Technology (ICET) program will be housed in the College of Engineering and Science (COES). The COES employs a flexible administrative structure in which faculty are organized into academic programs but also into interdisciplinary research, curriculum, and
strategic planning teams. The College is administratively led by a Leadership Team consisting of all the Academic Directors, Associate Deans, and the Dean of the College. Undergraduate programs are the responsibility of the program teams of faculty in the respective discipline. Members from all disciplines are encouraged to interact in discussing curricular issues. Several members have been hired who can provide expertise and support for multiple disciplines.

Each program has a chair, a person in a non-administrative faculty appointment whose job is very different from that of a traditional department head. That person is expected to spur discussions about curricular and student issues, and to see that resource requests flow appropriately to the Leadership Team of the College. The program chairs have primary responsibility for updating and assessing the curriculum, coordinating student advising and recruiting, monitoring retention, assuring that degree requirements are met by graduating students, and assisting students with placement.

Academic directors are primarily responsible for faculty and staff workload assignments, budget allocations, and faculty evaluations, as well as strategic direction and promotion of cross-college collaboration. Each Academic Director may be responsible for more than one academic program, and those programs may change periodically. This flexible structure serves to inhibit the development of “silos” in larger program clusters. Having several academic programs and faculty teams under one director has effectively reduced many of the “turf” issues that normally exist in a university environment. The Associate Deans have specific duties (undergraduate studies, graduate studies, and research, respectively). The Dean maintains a coaching role for the Academic Directors, Associate Deans and works primarily in development and long-range planning.

Describe departmental strengths and/or weaknesses and how the proposed program will affect them.

Specifically related to this proposed program, the collaboration between engineering and science faculty has led to significant curricular reform that would not have been possible under our former, traditional structure. For approximately two decades now, our college has offered an integrated freshman engineering curriculum that integrates first-year engineering students’ curricula such that students take a series of freshman engineering courses that directly connect to corresponding math and science classes that they take within their freshman year. In the engineering courses, the students are exposed to applications of fundamental engineering topics that incorporate topics covered in math, chemistry, and physics so that all classes are able to reinforce each other. Additionally, about ten years ago this integrated freshman engineering curriculum underwent a major revision to incorporate project-based learning within it. The revised curriculum, called Living with the Lab, has greatly expanded students’ hands-on experience with engineering in their freshman year while still covering the fundamental engineering topics that help reinforce math and science concepts they are learning. The Living with the Lab curriculum has become a significant recruitment tool for prospective students and parents which has led to a nearly 50% increase in engineering enrollment in the College since its introduction. Based upon this experience with the freshman engineering curriculum, the College introduced a similarly structures freshman curriculum for its computer science and cyber engineering programs, called Living with Cyber. This program was piloted two years ago and was fully implemented for all incoming freshman students this past year. It has also helped contribute to significant program enrollment growth in computer science (+110% from 3 years ago). Similarly, the proposed ICET program includes a freshman engineering technology curriculum modeled after our Living with the Lab program. This new freshman engineering technology program will serve as a recruitment tool and facilitate the ability of students to seamlessly transfer from engineering majors to the ICET program without losing academic credits so that they may stay on track to a timely graduation.

8. Accreditation

Describe plan for achieving program accreditation, including: name of accrediting agency, basic requirements for accreditation, how the criteria will be achieved, and projected accreditation date.

We will meet and seek accreditation under the engineering technology criteria (ETAC) of ABET. ABET has
Specific program criteria for instrumentation and control systems engineering technology programs. The proposed curriculum has been designed to meet these required student outcomes. The proposed program should produce its first graduates by the Spring of 2020. All of our ABET accredited programs within the college will undergo re-accreditation review in the Fall of 2020 so the proposed ICET program would also undergo its initial accreditation review at that same time.

If a graduate program, describe the use of consultants in developing the proposal, and include a copy of the consultant's report as an appendix.

N/A. No graduate program is being proposed.

9. Related Fields
Indicate subject matter fields at the institution which are related to, or will support, the proposed program; describe the relationship.

The proposed program will be supported by faculty, resources, and laboratory facilities in Electrical Engineering, Mechanical Engineering, Industrial Engineering, Computer Science, Physics, and Mathematics. All of which are within the College of Engineering and Science.

10. Cost & Revenue
Summarize additional costs to offer the program, e.g., additional funds for research needed to support the program; additional faculty, administrative support, and/or travel; student support. How will the program affect the allocation of departmental funds?

No additional costs are required to initiate this program since the existing ELET program will be terminated and replaced by the proposed program. Existing faculty are able to provide the required courses, and the College has recently hired a new faculty member that will help support the proposed program and development of new courses. As the existing ELET program is taught out, faculty teaching assignments will shift to the new ICET program. The faculty supporting the proposed program are primarily instructional faculty that do not require additional funds for research. The college has sufficient existing facilities through the current ELET program and other complementary programs in electrical, mechanical, and industrial engineering to support the proposed program. Future upgrades and enhancements will be supported by the transition of budget funds from the ELET program to the ICET program and through seeking external support from State and federal agencies.

We do not anticipate the need for significant reallocation of funds as a result of this proposed program. Essentially college funds dedicated to supporting the ELET program will transition to supporting the proposed ICET program.

*On the separate budget form, estimate new costs and revenues for the projected program for the first four years, indicating need for additional appropriations or investment by the institution.

Outside of revenue from tuition & fees, explain and justify any additional anticipated sources of funds, e.g., grants (in hand, promised, or in competition), institutional funds, etc.

None needed unless the program grows beyond the projected enrollments.

Certifications:

[Signatures and dates]

LA BoR—Program Proposal
SUMMARY OF ESTIMATED ADDITIONAL COSTS/INCOME FOR PROPOSED PROGRAM

Institution: Louisiana Tech University  Date: 3/20/2017

Degree Program, Unit: Instrumentation and Control Systems Engineering Technology

FTE = Full Time Equivalent (use the institution’s standard definition and provide that definition).

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* Describe/explain expected sources of funds in proposal text.
BOARD OF SUPERVISORS FOR THE
UNIVERSITY OF LOUISIANA SYSTEM

ACADEMIC AND STUDENT AFFAIRS COMMITTEE

April 20, 2017

Item G.3. Northwestern State University’s request for approval to award an Honorary Doctorate of Humane Letters to Mr. Stewart Ewing at the Spring Commencement Exercises.

EXECUTIVE SUMMARY

Northwestern State University (NSU) is requesting approval to award an Honorary Doctorate of Humane Letters to Mr. Stewart Ewing. Mr. Ewing, a 1973 graduate of NSU’s School of Business, currently serves as Executive Vice President and Chief Financial Officer for CenturyLink. He was elevated to this position in 1999 and is the longest-serving Chief Financial Officer of all Fortune 500 companies in the nation.

Mr. Ewing has been instrumental in CenturyLink’s transformation from a regional exchange telephone company to a worldwide technology and telecommunications company. He was at the forefront of CenturyLink’s acquisition strategy by negotiating all stages of purchase agreements from financing the acquisitions to regulatory issues to folding new companies into the corporate structure and philosophy. Also a leader in ensuring that CenturyLink headquarters remain in Monroe, Mr. Ewing has helped guide the company to its position of total assets of more than $47 billion and total revenues of more than $18 billion. The company employs more than 42,000 people worldwide, including approximately 2,500 in Monroe.

Mr. Ewing is an exemplary alumnus of the university and an extraordinary role model for current students in Northwestern’s College of Business and Technology; he was inducted into the School of Business Hall of Distinction in 2013. In recognition of his outstanding accomplishments as a business leader throughout his career, the Monroe Chamber of Commerce recently awarded its Kitty DeGree Foundation Lifetime Achievement Award in Business to Mr. Ewing. In addition to his professional achievements, he is very active in civic and charitable activities and has fostered a culture of giving and volunteerism among CenturyLink employees.

To acknowledge the esteem in which he is held by NSU, as well as by business and finance circles across the nation and world, Northwestern would like to honor alumnus Mr. Stewart Ewing with its most prestigious award.
RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves Northwestern State University’s request to award an Honorary Doctorate of Humane Letters to Mr. Stewart Ewing at the Spring Commencement Exercises.
March 28, 2017

Dr. Jim Henderson, President  
University of Louisiana System  
1201 North Third Street, Suite 7-300  
Baton Rouge, LA 70802

Re: Honorary Doctorate of Humane Letters for Mr. Stewart Ewing

Dear Dr. Henderson:

Northwestern State University is requesting that the following item be placed on the agenda for approval at the April 2017 Board Meeting:

Permission to award an “Honorary Doctorate of Humane Letters” to Mr. Stewart Ewing at our May 2017 commencement ceremonies. The College of Business and Technology has approved the attached recommendation.

Thank you for your consideration of this request.

Sincerely,

Dr. Chris Maggio  
Acting President

Attachment
March 28, 2017

Dr. Jim Henderson, President
University of Louisiana System
1201 North Third Street, Suite 7-300
Baton Rouge, La. 70802

Dear Dr. Henderson:

This is to request approval from the Board of Supervisors of the University of Louisiana System for Northwestern State University to present an Honorary Doctorate of Humane Letters during the Spring, 2017, commencement ceremonies to Mr. Stewart Ewing.

Faculty in the School of Business proposed the presentation of the Honorary Doctorate to Mr. Ewing, who is Executive Vice-President and Chief Financial Officer for CenturyLink and a 1973 graduate of Northwestern’s School of business.

Mr. Ewing, who is the longest-serving Chief Financial Officer of all Fortune 500 companies in the nation, joined CenturyLink in 1983 as Vice-President of Finance, became Vice-President and Controller in 1984 and Senior Vice-President and Chief Financial Officer in 1989. He was elevated to the position of Executive Vice-President and Chief Financial Officer in 1999.

Before joining Century Telephone, which later became CenturyLink, Mr. Ewing was associated for 10 years with KPMG, formerly Peat Marwick & Associates in Shreveport.

Mr. Ewing has been instrumental in CenturyLink’s transformation from a regional exchange telephone company to a worldwide technology and telecommunications company. He was at the forefront of CenturyLink’s acquisition strategy by negotiating all stages of purchase agreements from financing the acquisitions to regulatory issues to folding new companies into the corporate structure and philosophy.

Also a leader in ensuring that CenturyLink headquarters remained in Monroe, Mr. Ewing has helped guide the company to its position of total assets of more than $47 billion and total revenues of more than $18 billion. The company employs more than 42,000 people worldwide, including some 2,500 in Monroe.

The Monroe Chamber of Commerce has awarded its Kitty DeGree Foundation Lifetime Achievement Award in Business to Mr. Ewing for outstanding accomplishments as a business leader throughout his career.

DEDICATED TO ONE GOAL. YOURS.
Mr. Ewing is an exemplary alumnus of Northwestern State University and an extraordinary role model for current students in the NSU College of Business and Technology. He is extremely active in civic and charitable activities and has fostered a culture of giving and volunteerism among CenturyLink employees.

He is married to Hillary Kagan, and they have three children and three grandchildren.

The presentation of an Honorary Doctorate of Humane Letters to Mr. Ewing would enhance the image and reputation of his alma mater and reflect the esteem in which he is held by Northwestern State University, and in business and finance circles across the nation and world.

Thank you for your consideration of this request for Northwestern State University to honor alumnus Stewart Ewing with its most prestigious award.

Sincerely,

[Signature]

Dr. Chris Maggio
Acting President

EXECUTIVE SUMMARY

Northwestern State University (NSU) requests approval of a Proposal for a Post Baccalaureate Certificate (PBC) in Magnetic Resonance Imaging (MRI). This post baccalaureate advanced specialty certification program is designed to provide registered radiologic technologists with the knowledge, skills and competencies to become practicing MRI technologists. The proposed PBC, which builds upon the Bachelor of Science (BS) in Radiologic Sciences degree currently offered by NSU, will:

- Provide students the knowledge and skill needed to safely obtain MRI images;
- Promote the development of critical thinking and problem-solving skills needed to perform MRI imaging;
- Provide instruction in MRI imaging procedures, sequencing parameters, physical principles of image formation & data acquisition and processing;
- Promote patient safety MR imaging; and
- Prepare graduates to pass the MRI national certification exam administered by the American Registry of Radiologic Technologists (ARRT).

The creation of a PBC in MRI will provide students who have earned a baccalaureate degree an opportunity to enhance their careers by focusing on a growing specialty area. According to the Bureau of Labor Statistics (BLS), MRI technology jobs are expected to grow at a faster rate than the national average for all occupations; MRI technology jobs are expected to increase 9% from 2014 to 2024. According to the Louisiana Workforce Commission, MRI technologists are considered a “four-star” occupation. A four-star designation means the job has one of the highest occupational outlooks available in Louisiana.

To enroll in the proposed PBC, students will be required to have already completed a baccalaureate degree and hold American Registry of Radiologic Technologists, Nuclear Medicine Technology Certification Board, or American Registry for Diagnostic Medical Sonography certification in radiography, radiation therapy, nuclear medicine, or sonography. Once admitted, students will complete four courses (12 credit hours); two courses in the first semester and two in the second. To provide students flexibility, all didactic courses will be offered through online learning modalities. Successful completion of the program will provide the educational requirements students need to take the ARRT in MRI exam which is required to
be considered a registered MRI technologist. Additionally, the proposed PBC will fulfill continuing education requirements for the technologists' primary certification.

The proposed PBC will be attractive to individuals working in radiography with interest in seeking additional certification in MRI. A recent study conducted by the School of Allied Health at NSU of 71 radiologic technologists in northwest Louisiana indicated that 88 of the respondents felt that an advanced certificate would be valued by their employer. Additionally, 84% of the respondents felt an advanced level certification would promote career advancement. Echoing these comments, nearly 79% of the respondents indicated interest in attending an online program like the one proposed. The University anticipates an initial enrollment of five (5) students with that number increasing to 20 by year five of program implementation.

The School of Allied Health will oversee the proposed PBC. An existing faculty member and one new qualified adjunct faculty member will provide instructional support; no additional facilities, equipment, or library resources will be required to offer this certificate. The cost associated with the development and implementation of the proposed program is minimal. The University anticipates the total cost of the program will be $6K annually which will be offset by tuition and fees generated by students that enroll in the proposed PBC.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves Northwestern State University's request for approval of a Proposal for a Post Baccalaureate Certificate program in Magnetic Resonance Imaging.
March 28, 2017

Dr. Jim Henderson, President  
University of Louisiana System  
1201 North Third Street, 7-300  
Baton Rouge, LA 70802

Re: Post-Baccalaureate Certificate: Magnetic Resonance Imaging (MRI)

Dear Dr. Henderson:

Northwestern State University is submitting the attached Post-Baccalaureate Certificate: Magnetic Resonance Imaging (MRI) item to be placed on the agenda for approval at the April 2017 Board Meeting.

Thank you for your consideration.

Sincerely,

Dr. Chris Maggio  
Acting President

Attachment
To: Dr. Jeannine Kahn  
Vice President for Academic Affairs  
Board of Supervisors for the University of Louisiana System

From: Dr. Vickie Gentry  
Interim Provost and Vice President for Academic Affairs  
Northwestern State University of Louisiana

Date: March 27, 2017

Re: Post baccalaureate certificate

Northwestern State University of Louisiana seeks approval to offer a post baccalaureate certificate in the field of Magnetic Resonance Imaging (MRI).

Thank you for considering this request.
PROPOSAL to DEVELOP a NEW ACADEMIC CERTIFICATE PROGRAM  
(CAS, PAC, PBC, GC, PMC, PPC)

Date: March 27, 2017

| Campus: Northwestern State University | Program: Post-Baccalaureate Certificate: Magnetic Resonance Imaging  CIP Code: 510920 |

Institutional Contact Person & Contact Info (if clarification is needed)  
Dr. Laura Aaron; canwilel@nsula.edu; 318-677-3072

1. Certificate Description

Describe the program concept: purpose and objectives; proposed curriculum; mode of delivery (on-site/hybrid/on-line). Indicate which courses are new; describe plan for rolling out new courses.

The proposed post-baccalaureate advanced specialty certificate program is designed to provide registered radiologic technologists with the knowledge, skill and competence to become practicing Magnetic Resonance Imaging (MRI) technologists. The post-baccalaureate certificate program, which builds upon the Bachelor of Science in Radiologic Sciences degree currently offered by NSU, will:

- Provide students the knowledge and skill needed to safely obtain MRI images;
- Promote the development of critical thinking and problem solving skills needed to perform MRI imaging;
- Provide instruction in MRI imaging procedures, sequencing parameters, physical principles of image formation, & data acquisition and processing;
- Promote patient safety MR imaging; and
- Prepare graduates to pass the MRI national certification exam administered by the American Registry of Radiologic Technologists (ARRT).

The creation of a post baccalaureate certificate program in Magnetic Resonance Imaging (MRI) will provide students with a baccalaureate degree an opportunity to enhance their careers by specializing in a growing specialty. The program was specifically designed for the registered radiologic technologists with a baccalaureate degree who desire to obtain certification in MRI under the new American Registry of Radiologic Technologists (ARRT) post-primary pathway requirements. Employers in the radiology field report the need to hire graduates who are credentialed MRI technologists. The American College of Radiography (ACR) has suggested requiring MRI certification for all MRI technologists. NSU radiologic sciences faculty, who are state and national experts in the changing educational credentials dictated by the ACR developed this program to fulfill the needs of technologists seeking MRI certification.

To enroll in the Post-Baccalaureate Certificate MRI program, students will be required to have already completed a baccalaureate degree and hold American Registry of Radiologic Technologists, Nuclear Medicine Technology Certification Board, or American Registry for Diagnostic Medical Sonography certification in radiography, radiation therapy, nuclear medicine, or sonography. Once admitted, students will complete four courses (12 hours); two courses in the first semester and two in the second. Successful completion of the program will provide the educational requirements students need to take the ARRT in MRI exam. Additionally, the post-baccalaureate certification in MRI program coursework will fulfill continuing education...
requirements for the technologists’ primary certification. The post-baccalaureate certification in MRI program will accept previously earned college credit for up to 3 hours of the 12 hours. The Post-Baccalaureate Certificate MRI program can be completed within 2 semesters. To provide students flexibility, all didactic courses will be offered through online learning modalities.

The courses outlined below include one existing course and three new courses:

**RADS 3910 Sectional Anatomy (3hrs)** – This class is already offered as part of the BSRS Program. Presentation of human anatomy and pathology through the use of computed tomography, ultrasound and magnetic resonance images.

**RADS XXXX Foundations in MRI & Patient Care (3hrs) (NEW)**

An introduction to the history of MRI, the MRI environment, MRI safety, patient care, and MRI pharmacology. Topics include clinical issues regarding contrast administration and safety, magnetic field safety, MRI specific patient care and procedural considerations.

**RADS XXXX MRI Physics and Image Acquisition (3hrs) (NEW)**

An introduction to MRI physical principles, instrumentation, image formation and basic imaging parameters. This course covers the principles of magnetism, signal production, contrast characteristics, imagining planes and image formation. Emphasis is placed on details of methods of data acquisition, imaging options, image artifacts, and quality assurance to ensure quality MR imaging and understanding.

**RADS XXXX Procedures & Sequencing (3hrs) (NEW)**

Detailing the performance of standard MRI procedures. Content covers an in depth look at MRI sectional anatomy, physiology, imaging procedures, protocols, and pathology. The study of normal anatomy and pathologic conditions aid the student in recognizing the need for imaging changes based on these conditions. Content also includes optimal scanning techniques and procedures relating to the cardiovascular system, the central nervous system, the musculoskeletal system, thorax, abdomen, and pelvis.

**RADS 3910 Sectional Anatomy and RADS XXXX Foundations in MRI & Patient Care** will be offered each summer semester beginning in Summer 2017. **RADS XXXX MRI Physics and Image Acquisition** and **RADS XXXX Procedures & Sequencing** will be offered each fall semester beginning in Fall 2017. The courses will be submitted to NSU’s Curriculum Review Committee (CRC) in the fall of 2016.

2. Need

Outline how this program is deemed essential for the wellbeing of the state, region, or academy (e.g., how is it relevant, how does it contribute to economic development or relate to current/evolving needs). Identify similar programs in the state and explain why the proposed certificate is needed.

**National Need**

According to the Bureau of Labor Statistics (BLS) MRI technology jobs are expected to grow at a faster rate than the national average for all occupations (www.bls.gov). Magnetic Resonance Imaging technology jobs are expected to increase 9% from 2014 to 2024. In 2014, the BLS estimated there were 230,600 MRI technologist positions. By 2024, there is expected to be an
Increase of 20,700 positions. Similarly, O-Net expects a 9 to 13% increase in MRI technology jobs from 2014 to 2024 (http://www.onetonline.org/link/summary/29-2035.00).

State Need
According to the Louisiana Workforce Commission, MRI technologists are considered a “four-star” occupation. A four-star designation means the job—MRI technologist has one of the highest occupational outlooks available in Louisiana. There are currently 33 job openings for MRI technologists. (http://www.laworks.net/Stars/default.aspx)

Evolving National Certification Need
In order for a person to be considered a registered MRI technologist, they must pass a national certification exam administered by a nationally recognized registry organization, such as the American Registry of Radiologic Technologists (ARRT). January 1, 2016 the ARRT changed the credentialing requirements for individuals pursuing a post-primary certification in Magnetic Resonance Imaging (MRI). According to the policy change, new MRI candidates are now required to complete 16 clock hours of didactic education related to the content outlines for the certification exam. The 12 credit hours for this post-baccalaureate certification in MRI program would provide 192 clock hours of education—well exceeding the requirement. This would ensure individuals working towards MRI certification can complete the necessary hours, new requirements and be well prepared to be a successful candidate for the ARRT MRI certification exam.

The Joint Commission Needs
Additionally, The Joint Commission (which accredits healthcare institutions) published new certification requirements for technologists working in computed tomography (CT). Technologists who perform diagnostic CT exams were to be required to have advanced-level certification by the ARRT or NMTCB in CT. However, there has been a recent reversal of this decision. It is expected that within the next few years there will be a requirement for technologists working in MRI to be certified. For a facility that offers MRI to be eligible for federal reimbursement, the facility must be accredited through the American College of Radiology (ACR). Part of the ACR’s Accreditation Program is to evaluate the qualifications of the MRI personnel. In 2015, the ACR updated its MRI accreditation qualifications. One of the qualifications for MRI technologists working at an ACR accredited facility is to be a certified MRI technologist.

Implementation of NSU’s post-baccalaureate certification in MRI program will increase MRI technologists’ education and thus credentials, which will improve medical diagnosis, treatment, and prognosis Louisiana’s citizens. The School of Allied Health held its annual Advisory Council meeting to help assess workforce needs. Participants in the Advisory Council discussed their needs for the workforce they employ. These employers stated they are currently requiring certification for their MRI technologists. Furthermore, it is expected that within a few years reimbursement for MRI examinations will be based on the requirement that all MRI examinations be performed and completed by a MRI registered technologist. The certification for reimbursement has been imposed on other radiology departments such as: mammography, ultrasound, nuclear medicine, diagnostic, and radiation therapy. The proposed post-baccalaureate certification in MRI program will improve the marketability of all program completers and they will have specific preparation in an additional imaging modality.
Similar State Programs
There are no other MRI programs including certificate, associate, bachelors, masters, or post baccalaureate within the state of Louisiana. Further, Louisiana’s institutions of higher education do not offer a single course specific to MRI imaging.

Alignment with University Mission and School of Allied Health
Northwestern State University offers both a B.S. and M.S. in Radiologic Sciences; hence the certificate aligns with the current academic programs of the School of Allied Health. The post-baccalaureate certification in MRI program is an institutional priority at this time because the university is growing to specifically meet Louisiana’s workforce needs and this program offers students the unique opportunity to receive specialty training without requiring the completion of an additional degree. The post-baccalaureate certification in MRI program is designed to meet the working the radiologic technologist’s educational needs, specifically, to expand his/her MRI knowledge while pursuing MRI certification.

NSU’s current Mission and Vision statements establish the following goals which apply to this post-baccalaureate certificate (all excerpts from the 2015-2016 University Catalog):
- From the Mission Statement: “Northwestern State prepares its students to become productive members of society and promotes economic development and improvements in the quality of life of the citizens of the region” (8).
- From the Vision Statement: “Northwestern will be responsive to changing views and trends as it works to provide a highly-qualified workforce to promote economic development and to meet the needs that higher education can provide to students, state government, private enterprise, and society” (9).

The proposed certificate will contribute to meeting these goals by providing an online opportunity for students to develop the necessary skills to meet the growing need and expectation of MRI employers within the state, region and nation.

3. Students
Describe student interest. Project enrollment and productivity for the first 5 years; justify projections.

The primary group of students who will be interested in this post-baccalaureate certificate MRI program are working in radiography, who are seeking additional certification in MRI. Interested students may include those already working in the MRI field as well as those who have not worked in MRI, but are interested. A recent survey conducted by the School of Allied Health at NSU of 71 radiologic technologists in northwest Louisiana indicated that 88% (n=52) of respondents felt that an advanced certificate would be valued by their employer. Additionally, 84% of the respondents felt an advanced level certification would promote career advancement. Echoing these comments, nearly 79% of the respondents indicated interest in attending an online certificate program that would prepare them for an advanced certification. When the technologists were asked which specific programs would be of interest to them, 43% indicated a desire to enroll in a MRI program.

The BSRS program at NSU is expected to matriculate recent graduates into the program; however, regional and national interest is also expected due to the online program. Louisiana
has three baccalaureate programs for radiography majors, ensuring a large population of baccalaureate prepared radiographers. Northwestern also offers a RT to BS program to help registered technologists with an associate's degree to complete their baccalaureate degree and meet admission requirements. Northwestern will recruit students working in the healthcare industry who meet program requirements. Recruiting efforts will also focus on regional and national radiography conferences.

By 2022, NSU expects the post-baccalaureate certificate MRI program enrollment to be approximately 20 students. In 2017 the program will be offered and total expected enrollment is 5 students. The following chart of predicted enrollment is based on interest surveys distributed to students, employers and employees in Northwest Louisiana:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Students Enrolled</th>
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<td>2020-2021</td>
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</tr>
<tr>
<td>2021-2022</td>
<td>20</td>
<td>20</td>
</tr>
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4. Accreditation
Describe plan for achieving program accreditation.

The Joint Review Committee on Education in Radiologic Technology (JRCERT) accredits MRI degree programs. Complete MRI degree programs include didactic, laboratory, and clinical courses. Our Post-Baccalaureate Certificate MRI program does not contain clinical or laboratory courses and is not a degree granting program. Therefore, accreditation of the post baccalaureate certificate MRI program is not required.

5. Faculty, Administration, & Other Resources
How will instructional needs be met: will additional faculty, facilities, equipment, or library resources be required? What department will deliver and oversee the proposed program?

The School of Allied Health will oversee the proposed program. The School of Allied Health is housed in the College of Nursing and School of Allied Health. Currently, one full-time faculty member in the School of Allied Health is seeking certification in MRI. It is expected that the faculty member, and one other adjunct faculty would meet the program's needs for the first two years. All courses will be taught online. Several individuals who have MRI credentials have been identified as future adjunct faculty if program growth requires support.

No additional facilities, equipment, or library resources will be required to offer this certificate.

6. Cost
Summarize additional costs to offer the program. On separate budget sheet, estimate costs and revenues for the projected program for the first five years, indicating need for additional appropriations (if any).

The costs associated with the development and implementation of this program are minimal. Current faculty are creating and developing the courses. There will be no additional cost to teach the courses except one qualified adjunct faculty member to teach a summer semester course and
a fall semester course and marketing and recruiting costs. The cost of the adjunct faculty member is $5,000 and marketing $1000 compared to the $22,500 generated by 5 online students taking 12 online hours in the first year.

CERTIFICATIONS:

Laura Aaron 3/28/17
Primary Administrator for Proposed Certificate Date

Provost/Chief Academic Officer Date

Management Board/System Office Date Approved
### SUMMARY OF ESTIMATED ADDITIONAL COSTS/INCOME FOR PROPOSED CERTIFICATE

Institution: Northwestern State University  
Certificate Program, Unit: Post-Baccalaureate Certificate: Magnetic Resonance Imaging, School of Allied Health

FTE = Full Time Equivalent (use the institution's standard definition and provide that definition).

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<td>*Federal Grants/Contracts</td>
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<td>*State Grants/Contracts</td>
<td>$</td>
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<td>*Private Grants/Contracts</td>
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<td><strong>TOTAL REVENUES</strong></td>
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<td>$67,500</td>
<td>$90,000</td>
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* Describe/explain expected sources of funds in proposal text.
Laura Aaron, Ph.D., RT(R) (M) (QM)  
Director  
Northwestern State University  
School of Allied Health  
carwil@nsula.edu  
Office: (318) 677-3072 / Fax: (318) 677-3058  
1800 Line Avenue  
Shreveport, LA 71101  

September 2, 2016  

Dr. Aaron,  

I am writing this letter to express University Health Shreveport’s full support for the Northwestern State University Post-Baccalaureate Certificate in MRI program. This program will be of significant benefit to radiologic technologists who aspire to grow in the field of radiology. A major benefit of this program is that it can be completed in two semesters online allowing radiologic technologists the ability to remain employed while they complete their coursework. Completion of this program will assist registered technologists with the skills and knowledge required to obtain certification from the American Registry of Radiologic Technologists in MRI. This program will allow technologists at University Health the ability to obtain advanced credentialing in MRI that can be used locally at University Health Shreveport. Accreditation bodies have begun to shift towards requiring technologists to have advanced credentialing if they are employed in those areas. This program is postured to aid facilities by providing a mechanism where technologists can be educated towards certification before it is mandated. University Health eagerly anticipates collaboration with Northwestern State University in its Post-Baccalaureate Certificate in MRI program.  

Thank you,  

Deseree Bell  
BSRT (R) (CT)  
Technical Director of Radiology  
University Health  
Phone: 318.675.8012  
Email: deseree.bell@uhshs.com  

Department of Radiology  
1541 Kings Highway  
Shreveport, LA 71103  

Phone 318.675.8012  
Fax 318.675.6656
September 4, 2016

Laura Aaron, Ph.D., RT(R) (M) (QM)
Director
Northwestern State University
School of Allied Health
1800 Line Avenue
Shreveport, LA 71101

Dear Dr. Aaron,

This letter is offered as support for a Post-Baccalaureate Certificate Program in MRI at Northwestern State University. Hospitals have been challenged by insurers to employ radiology technologists with advanced certification. In addition Joint Commission in its pre-publication accreditation updates has made it clear that certification for advanced imaging will be a requirement.

A program such as that proposed by Northwestern State University will allow existing technologists who possess valuable clinical experience to obtain certification while they work. This type of program is essential so that we do not lose the clinical experience these technologists possess but instead enhance their knowledge base.

University Health is currently developing a strategic plan specific to Radiology. The plan will address our growing outpatient imaging needs which MRI constitutes a large part of. MRI is a significant role in our cardiac services expansion program. It will also be vital to the future of our women's health service line.

University Health looks forward to working with you to ensure this program is successful. Please contact me directly for any assistance.

Sincerely,

Mark Randolph
Chief Operating Officer

1541 KINGS HIGHWAY ● SHERVEPORT, LOUISIANA 71103 ● PHONE 318.673.4082 ● WWW.Unisystem.com
9/15/16

Laura Aaron, Ph.D., RT(R)(M)/QM
Director
canviel@lsus.edu
Northwestern State University
School of Allied Health
Office (318) 677-3072 / Fax (318) 677-3068
1800 Line Avenue
Shreveport, LA 71101

Dear Laura,

As an HCA facility, Rapides Regional Medical Center (RRMC) requires all MRI staff to be certified through the American Registry of Radiologic Technologists (ARRT). A structured, didactic program allowing an individual to attain a MRI certification, through online course work, would be beneficial to both the MRI community and RRMC's Radiology Department.

As I understand, Northwestern State University (NSU) is offering a program which will grant a Post-Baccalaureate Certificate in MRI to all candidates who successfully complete the requirements. The online nature of this course is valuable to healthcare facilities by allowing individuals to maintain employment while working to navigate the curriculum and simultaneously log exams to satisfy the clinical portion of the program.

Currently, our RMRC Radiology Department employs three MRI certified technologists; however, the online Post-Baccalaureate course offered by NSU could still prove to be a beneficial asset to our hospital in the future. Moreover, the MRI Certificate program could possibly be considered a term of employment for newly graduating Radiologic Technologists, allowing the hospital to secure employment from an individual engaged in course specific training.

Sincerely,

Chad Hinton MBA, RT (N) (R)
Manager of Radiologic Services
Rapides Regional Medical Center
211 Fourth St., Alexandria, LA, 71301
chad.hinton2@hcahealthcare.com
(c) 318 321.7665 (o) 318.769.3133
Item G.5. Northwestern State University’s request for approval of a Proposal for a Post Baccalaureate Certificate program in Invasive Cardiovascular Technology.

EXECUTIVE SUMMARY

Northwestern State University (NSU) requests approval of a proposal for a Post Baccalaureate Certificate (PBC) in Invasive Cardiovascular Technology. The proposed program will provide baccalaureate prepared students with specialized cardiovascular education. Upon completion of the program, students will have the theoretical cardiovascular knowledge necessary to obtain advanced certification in invasive cardiovascular technology.

The goal for the proposed PBC is to afford students the educational opportunity to develop necessary knowledge and skills to advance their careers in cardiac catheterization laboratories. The curriculum is specifically designed to provide necessary theoretical and didactic education that prepares students to take the advanced certification exams offered by the American Registry of Radiologic Technologists (ARRT) and the Cardiovascular Credentialing International (CCI). Employers and patients will benefit from students obtaining these advanced certifications. Further, graduates obtaining this proposed PBC will increase their marketability.

Invasive cardiovascular technology jobs are expected to grow at a much faster rate than the national average for all occupations according to the Bureau of Labor Statistics. It is anticipated that there will be a 24% growth in invasive cardiovascular technology jobs between 2014 and 2024. In addition, the Louisiana Workforce Commission has classified such positions as a “four-star” occupation, meaning that this occupation has one of the highest occupational outlooks available.

To enroll in NSU’s PBC students will have earned a baccalaureate degree in a health science field (including, but not limited to radiologic sciences, respiratory therapy, echocardiography, EMT/paramedic, or nursing). Students will also be required to have a current, unrestricted license or registry in their respective health care profession. Once admitted, students will take four courses, or a total of 12 credit hours. Courses will be offered online to provide flexibility for working adult learners.

The proposed PBC will complement the multiple baccalaureate healthcare degrees offered by NSU through their School of Allied Health to include the BS in Radiologic Sciences and the BS in Nursing. Additionally, NSU offers working students several program options to transition from a two-year associate degree to a four-year baccalaureate degree. These options
include the RT to BSRS program, the RN to BSN program, and the Bachelor of Applied Science in Allied Health. Faculty from the School of Allied Health will deliver all didactic courses required of the proposed PBC and will provide oversight. One new qualified adjunct faculty member will be needed to teach a spring and fall semester course; existing facilities, equipment and library resources are sufficient for program implementation. As a result, there will be minimal cost ($6K annually) associated with delivery of the proposed PBC.

The primary students predicted to be interested in the proposed PBC are working adults currently employed in a cardiovascular setting or those who plan to seek employment in a cardiovascular setting. Based on the level of interest gathered from student, employee, and supervisor surveys, the predicted enrollment for the inaugural year is five with that number increasing to 20 by year five of program implementation.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves Northwestern State University's request for approval of a Proposal for a Post Baccalaureate Certificate program in Invasive Cardiovascular Technology.
March 28, 2017

Dr. Jim Henderson, President
University of Louisiana System
1201 North Third Street, 7-300
Baton Rouge, LA 70802

Re: Post-Baccalaureate Certificate: Invasive Cardiovascular Technology (ICT)

Dear Dr. Henderson:

Northwestern State University is submitting the attached Post-Baccalaureate Certificate: Invasive Cardiovascular Technology (ICT) item to be placed on the agenda for approval at the April 2017 Board Meeting.

Thank you for your consideration.

Sincerely,

Dr. Chris Maggio
Acting President

Attachment
To:  Dr. Jeannine Kahn  
    Vice President for Academic Affairs  
    Board of Supervisors for the University of Louisiana System  

From:  Dr. Vickie Gentry  
        Interim Provost and Vice President for Academic Affairs  
        Northwestern State University of Louisiana  

Date:  March 27, 2017  

Re:  Post baccalaureate certificate  

Northwestern State University of Louisiana seeks approval to offer a post baccalaureate certificate in the field of Invasive Cardiovascular Technology (ICT).  

Thank you for considering this request.
**PROPOSAL to DEVELOP a NEW ACADEMIC CERTIFICATE PROGRAM**
(CAS, PAC, PBC, GC, PMC, PPC)

**Date:** March 20, 2017

<table>
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<tr>
<th>Campus: Northwestern State University</th>
<th>Program: Post-Baccalaureate Certificate: Invasive Cardiovascular Technology (ICT)</th>
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</tr>
</tbody>
</table>

**Institutional Contact Person & Contact Info (if clarification is needed):**
Dr. Laura Aaron  
carwilel@nsula.edu  
(318)677-3072

1. **Certificate Description**

Describe the program concept: purpose and objectives; proposed curriculum; mode of delivery (on-site/hybrid/on-line). Indicate which courses are new; describe plan for rolling out new courses.

The proposed post-baccalaureate certificate program in Invasive Cardiovascular Technology (ICT) will provide baccalaureate prepared students with specialized cardiovascular technology education. Upon completion of the program, students will have the theoretical cardiovascular knowledge necessary to obtain advanced certification in invasive cardiovascular technology. The post-baccalaureate certificate in invasive cardiovascular technology program will:

- Provide students with patient care skills specific to the cardiovascular arena;
- Prepare graduates to understand the concepts of hemodynamic monitoring;
- Provide students with the knowledge of the equipment used in the invasive cardiovascular lab;
- Promote radiation protection for both the patient and staff;
- Provide instruction in procedures performed in the invasive cardiovascular lab and the rationale for performing those procedures; and
- Prepare graduates to understand the staff roles for the procedures performed in the invasive cardiovascular lab.

The goal for the proposed post-baccalaureate certificate program in Invasive Cardiovascular Technology is to afford students the educational opportunity to develop necessary knowledge and skills to advance their careers in cardiac catheterization laboratories. The curriculum is specifically designed to provide the necessary theoretical and didactic education that prepares students to take the advanced certification exams offered by the American Registry of Radiologic Technologists (ARRT) and the Cardiovascular Credentialing International (CCI). Employers and patients will benefit from students obtaining these advanced certifications. Further, graduates obtaining this certification will increase their marketability.

To enroll in NSU’s post-baccalaureate certificate program in invasive cardiovascular technology, students will have earned a baccalaureate degree in a health science field (including, but not limited to radiologic sciences, respiratory therapy, echocardiography, EMT/paramedic, or nursing). Students will also be required to have a current, unrestricted license or registry in their respective health care profession. Once admitted, students will take four courses, or a total of 12 credit hours. Two courses, six credit hours, will be offered in spring semester and two courses, six credit hours, will be offered in the fall semester. Students begin the sequence of courses in either the spring or fall semester. Courses will be offered online to provide flexibility for working adult learners.
Descriptions of the required courses are as follows:

1) ALHE XXXX Invasive Cardiovascular Procedures
   This course explores angiographic approaches to diagnostic and interventional procedures performed in a cardiovascular lab. Topics covered include patient positioning during interventional cardiac procedures, cardiac anatomy and pathology, radiation protection, and image critique.

2) ALHE XXXX Cardiovascular Imaging Equipment
   This course covers advanced interventional equipment and physiologic monitoring equipment. This course will explore the inventory and supplies used in interventional cardiovascular lab, including automatic injectors, catheters, guide wires, needles, intravascular ultrasound, and other surgically invasive equipment.

3) ALHE XXXX Cardiovascular Patient Care
   This course explores the patient care skills needed to be proficient in the invasive cardiovascular lab. Topics covered include the physical assessment of the patient, pre- and post-procedure monitoring of the patient, and evaluation of access sites.

4) ALHE XXXX Cardiovascular Hemodynamics
   This course will introduce the student to the various waveform components for each of the cardiac chambers (Fick cardiac output, Gorlin Valve formula, Shunts, and vascular resistances). Additionally, students will be able to assess both the normal and abnormal measurements.

2. Need
   Outline how this program is deemed essential for the wellbeing of the state, region, or academy (e.g., how is it relevant, how does it contribute to economic development or relate to current/evolving needs). Identify similar programs in the state and explain why the proposed certificate is needed.

National Need

Invasive cardiovascular technology jobs are expected to grow at a much faster rate than the national average for all occupations. According to the Bureau of Labor Statistics (BLS) (www.bls.gov), a 24% growth in invasive cardiovascular technology jobs is expected between 2014 and 2024. Nationally, it is estimated that there were 51,080 cardiovascular technologists employed in 2014. Assuming the 24% job growth as projected by the BLS, over 12,000 new positions will be needed nationwide.

State Need

According to the Louisiana Workforce Commission (http://www.laworks.net/Stars/default.aspx), interventional cardiovascular technologists are considered a “four-star” occupation, meaning that this occupation has one of the highest occupational outlooks available. Currently, there were 38 job opportunities in Louisiana for individuals with interventional cardiovascular training. Similarly, O-Net lists cardiovascular technologists as one of the occupations with a “bright outlook,” meaning that this occupation is projected to have 100,000 job opportunities over the period 2014-2024 (http://www.onetonline.org/link/summary/29-2031.00). The BLS estimates that Louisiana had over 880 cardiovascular technologists in 2014. Assuming a projected 24% job growth (BLS), Louisiana will require an additional 212 cardiovascular technologists by 2024.
Evolving Professional Changes

The two primary pathways to certification for invasive cardiovascular technologists are through the American Registry of Radiologic Technologists (ARRT) and the Cardiovascular Credentialing International (CCI). The ARRT offers the Cardiac-Interventional (CI) post-primary certification. The CCI offers a Registered Cardiovascular Invasive Specialists (RCIS) certification. Both of these certifications require the healthcare professional to have clinical experience and to be well-versed in several cardiovascular topics, including patient care, imaging equipment, and cardiovascular procedures. While there currently are no national requirements for a certification in invasive cardiovascular technology, seven states do require a RCIS certification (Arkansas, Delaware Indiana, Ohio, South Carolina, Texas, and Washington) (https://www.asrt.org/main/standards-regulations/state-legislative-affairs/states-that-regulate-by-modality), and this number is expected to grow.

Even more pressing, many health care facilities are requiring their interventional staff to hold a national certification (http://www.cathlabdigest.com/article/Changing-Skill-Sets-Evolution-Cardiac-Cath-Lab-Clinical-Staff). This trend has been echoed during School of Allied Health Advisory Council meetings. Imaging directors from northwest Louisiana stated that radiologic technologists are now being required to attain an advanced level certification to work in the various advanced imaging modalities, such as interventional cardiology.

The online post-baccalaureate Invasive Cardiovascular Technology program will provide the educational foundations for health care professionals who are preparing for an advanced level certification in invasive cardiovascular technology. Radiologic technologists will have the knowledge base to take both the ARRT CI certification and the CCI RCIS certification. Other healthcare professionals (respiratory therapists, echocardiographers, EMT/paramedics, nurses, etc.) who complete the Invasive Cardiovascular Technology Certificate program will be provided the theoretical foundations necessary to successfully complete the RCIS certification.

In addition to preparing healthcare workers already employed in an interventional cardiovascular department, this program will provide a detailed primer for those individuals seeking employment in the cardiovascular field. This preparation will prove most helpful to the healthcare worker beginning in the specialized field of invasive cardiovascular technology. Once the graduate’s clinical requirements are complete, they will have the educational underpinnings necessary to be successful on one or both of the advanced level certifications in interventional cardiology.

Similar State Programs

No other programs similar to this post-baccalaureate certificate in invasive cardiovascular technology exist in Louisiana.

Alignment with University Mission and School of Allied Health

Northwestern State University offers multiple baccalaureate healthcare degrees including the Bachelor of Science in Radiologic Sciences and the Bachelor of Science in Nursing. Additionally, NSU offers working students several program options to transition from a two-year associate degree to a four-year baccalaureate degree. These options include the RT to BSRS program, the RN to BSN program, and the Bachelor of Applied Science in Allied Health (BASAH). The post-baccalaureate certificate in Invasive Cardiovascular Technology provides an opportunity for all...
baccalaureate-prepared students in healthcare to advance in his/her career.

NSU’s Mission and Vision statements establish three goals relevant to the post-baccalaureate certificate in invasive cardiovascular technology.

- “Northwestern State University prepares its students to become productive members of society and promotes economic development and improvements in the quality of life of the citizens of the region.” (2016-17 University Catalog, “Mission Statement,” p. 8).
- “Electronic learning and distance education will be an integral part of Northwestern’s role in delivering degree programs and effective services on campus and throughout Louisiana, the nation, and the world.” (2016-17 University Catalog, “Vision Statement,” p. 9).
- “Northwestern will be responsive to the changing views and trends as it works to provide a highly-qualified workforce to promote economic development and to meet the needs that higher education can provide to students, state government, private enterprise, and society.” (2016-17 University Catalog, “Vision Statement,” p. 9).

The proposed Invasive Cardiovascular Technology certificate program will contribute to each of these goals by providing an online learning opportunity for students to gain theoretical knowledge needed to be successful in the field of invasive cardiology. Specifically, this program will prepare students to take an advanced level of certification to meet the needs of employers in the state, region, and nation.

3. Students
Describe student interest. Project enrollment and productivity for the first 5 years; justify projections.

The primary students predicted to be interested in the post-baccalaureate certificate in invasive cardiovascular technology are working adults currently employed in a cardiovascular setting or those who plan to seek employment in a cardiovascular setting. A recent survey of radiologic technologists in northwest Louisiana indicated that 88% (n=52) of respondents felt advanced certification would be valued by their employer. Further, 84% of the respondents felt that an advanced level certification would provide career advancement opportunities. Echoing these comments, nearly 79% of the respondents indicated they would be interested in attending an online certificate program that would prepare the student for an advanced certification. When asked which specific programs they would be interested in pursuing, 17% indicated a desire to enroll in an invasive cardiovascular post-baccalaureate certificate program.

A large population of Louisiana’s baccalaureate-prepared students could participate in this program. Northwestern State University, the University of Louisiana-Monroe, and McNeese State University provide a Bachelor of Science in Radiologic Sciences program for students. All graduates of these programs, both past and present, are potential program students.

The program would also be available to baccalaureate-prepared nurses. There are currently ten Louisiana universities that offer a Bachelor of Science in Nursing degree. The graduates currently employed in a cardiovascular lab would benefit through gaining an advanced level certification in invasive cardiology. Similarly, any graduate of these programs who are seeking employment in invasive cardiology would be more marketable through the education offered in this program.

In summary, a number of healthcare professionals are eligible for program enrollment, including respiratory therapists, nuclear medicine technologists, EMTs, paramedics, nurses, and echocardiographers. Recent NSU BASAH program graduates will also be potential students for the post-baccalaureate certificate in invasive cardiovascular technology program.
NSU will actively recruit students from the healthcare organizations in Louisiana and nationwide. Recruiting efforts will also focus on regional and national healthcare conferences.

Based on the level of interest gathered from student, employee, and supervisor surveys, the predicted enrollment and graduation appears below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Students Enrolled</th>
<th>Number of Students Completing</th>
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<td>2020-21</td>
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4. Accreditation
Describe plan for achieving program accreditation.

Invasive cardiovascular programs that contain both formal lab experiences and patient-based clinical components are typically accredited through the Commission on Accreditation of Allied Health Programs (CAAHP). The proposed certificate program does not contain any laboratory or clinical experiences and is not a degree granting program. Therefore, accreditation of the post baccalaureate certificate in invasive cardiovascular technology program is not required.

5. Faculty, Administration, & Other Resources
How will instructional needs be met: will additional faculty, facilities, equipment, or library resources be required? What department will deliver and oversee the proposed program?

Faculty from the School of Allied Health will deliver all didactic courses and oversee the post-baccalaureate certificate in Invasive Cardiovascular Technology program. Currently, one of the faculty members has 16 years experience in cardiovascular technology and is seeking certification. It is expected that the faculty member, and one other adjunct faculty would meet the program’s needs. All courses will be taught online. Several individuals who have invasive cardiovascular technology credentials have been identified as future adjunct faculty, if program growth requires support.

No additional facilities, equipment, or library resources will be required to offer this certificate.

6. Cost
Summarize additional costs to offer the program. On separate budget sheet, estimate costs and revenues for the projected program for the first five years, indicating need for additional appropriations (if any).

Because an appropriate faculty member is already in place and engaged in cardiovascular technology, additional costs will be minimal. Current faculty are creating and developing the courses. There will be no additional cost to teach the courses except one qualified adjunct faculty member to teach a spring and a fall semester course and marketing and recruiting costs. The cost of the adjunct faculty member is $5,000 and marketing is $1000 compared to the $22,500 generated by 5 online students taking 12 online hours in the first year.
CERTIFICATIONS:

Primary Administrator for Proposed Certificate

Provost/Chief Academic Officer

Management Board/System Office

3/28/17

Date

2/28/17

Date

Date Approved
### SUMMARY OF ESTIMATED ADDITIONAL COSTS/INCOME FOR PROPOSED CERTIFICATE

**Institution:** Northwestern State University  
**Date:** August 30, 2016

Certificate Program, Unit: Post-Baccalaureate Certificate: Invasive Cardiovascular Technology, School of Allied Health

FTE = Full Time Equivalent (use the institution's standard definition and provide that definition).

#### EXPENDITURES

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#### REVENUES

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* Describe/explain expected sources of funds in proposal text.
Letter of Support

Joel Hicks
School of Allied Health
1800 Line Avenue
205C
Shreveport, LA 71101
September 2, 2016

Joel,

I have heard that consideration is being given to adding a program for an Invasive Cardiovascular Technology at Northwestern State University. I would like to express my support for this program. I believe it would be most beneficial as a POST Baccalaureate program. This will complement the knowledge and skill obtained in the Radiology or perhaps even nursing program. Currently the only way to obtain this specialized knowledge is “on the job training”. This will give clinicians an advantage and set those apart that are truly committed to cardiovascular care.

Additionally, we are being more and more scrutinized and government mandates increase. This registration/certification could become a requirement. By starting a program you would be taking a proactive step and promote a higher level of patient care.

Sincerely,

Kathy Walker, Director
Heart & Vascular Institute
Willis Knighton Health System

North Louisiana’s Largest Network of Hospitals
Community Ochsner 2600 Grangeville Road • Shreveport, LA 71104 • 318-352-4600 • Web site: www.wlh.com
Item G.6. Southeastern Louisiana University’s request for approval of Memoranda of Understanding with the following institutions: (a) Universidad Cristobal Colon, Veracruz, Mexico; (b) Universidad Santo Tomas, Colombia; and (c) Universidad de Cartagena, Colombia.

EXECUTIVE SUMMARY

Southeastern Louisiana University requests approval of an agreement of cooperation and Memorandum of Understanding (MOU) with each of the following universities: Universidad Cristobal Colon, Veracruz, Mexico; Universidad Santo Tomas, Columbia; and Universidad de Cartagena, Colombia.

Each MOU establishes the basis for cooperation in the promotion of general activities of mutual interest, including the development of academic and cultural exchange in education. Each agreement of cooperation creates a student exchange program and outlines admission criteria for waiver of the non-resident fee at Southeastern Louisiana University.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves Southeastern Louisiana University’s request for approval of Memoranda of Understanding with the following institutions: (a) Universidad Cristobal Colon, Veracruz, Mexico; (b) Universidad Santo Tomas, Colombia; and (c) Universidad de Cartagena, Colombia.
March 30, 2017

Dr. James B. Henderson
President, University of Louisiana System
1201 North Third Street, Suite 7-300
Baton Rouge, Louisiana 70802

Re: Collaborative agreements between Southeastern and three international universities

Dear Dr. Henderson:

Southeastern Louisiana University requests approval of an agreement of cooperation and MOU with each of the following universities:

Universidad Cristóbal Colon, Veracruz, México
Universidad Santo Tomas, Colombia
Universidad De Cartegena, Colombia

Each MOU establishes the basis for cooperation in the promotion of general activities of mutual interest, including the development of academic and cultural exchange in education. Each agreement of cooperation creates a student exchange program and outlines admission criteria for waiver of the non-resident fee at Southeastern.

I respectfully request that you place this item on the agenda for the April 20, 2017, meeting of the Board of Supervisors.

Sincerely,

John L. Crain
President

Attachments
Agreement of Cooperation

Between

Southeastern Louisiana University

And

Universidad Cristóbal Colon, Veracruz, México

In order to extend the effective and mutually beneficial cooperation and develop academic and cultural exchange in education, Southeastern Louisiana University (Southeastern) and the University Cristóbal Colon (UCC) hereby agree to cooperate toward the internationalization of higher education.

The areas of cooperation will include any program offered at either university which is felt to promote the above-mentioned goals. However, any specific program shall be subject to mutual consent, availability of funds, and the approval of both universities.

The terms of such mutual assistance and cooperation shall be discussed and agreed upon in writing by the responsible authority of each university prior to the initiation of any particular program or activity. This agreement addresses exchange of students.

University Cristóbal Colon students who have completed at least 4 (four) semesters of study at UCC and who meet the criteria for undergraduate transfer student admissions listed below will be eligible to study for 4 (four) or more semesters at Southeastern as degree-seeking students. They will be awarded a waiver of the non-resident fees at Southeastern for undergraduate provided they are in good academic standing and enroll full time student each semester, making satisfactory progress toward a degree and meet the following admissions criteria:

1. Must have a cumulative grade point average of 2.5 or higher on all college level work.
2. Must be eligible to return to the last college or university attended.
3. Must have completed college level Math that meets the General Education Requirements
4. Must have taken the TOEFL or IELTS:
   a. Minimum TOEFL scores required - 525 paper-based, 195 computer-based, and 75 internet based
   b. Minimum IELTS score required — 6.0 overall band
Southeastern students who meet the criteria for undergraduate transfer admissions at UCC will be eligible to study at UCC as degree-seeking students provided they are in good academic standing and making satisfactory progress toward a degree.

This agreement shall take effect upon approval by both parties and shall remain in effect for an initial period of five years. Thereafter it shall automatically be renewed annually. However, either university may terminate the agreement in writing at least 10 (ten) months prior to the beginning of an academic year.

Date __________ 2017

Dr. John Crain, President
Southeastern Louisiana University

______________________________
Dr. José Manuel Asún Jordan, Sch. P. Rector
University Cristobal Colon, Mexico
ACUERDO DE COOPERACION

ENTRE

UNIVERSIDAD CRISTOBAL COLON, VERACRUZ, MEXICO

Y

SOUTHEASTERN LOUISIANA UNIVERSITY

Este Acuerdo se da entre Universidad Cristóbal Colon (UCC) y Southeastern Louisiana University (Southeastern), en adelante referidas como "Las Partes", quienes,

Conscientes de las relaciones de amistad y cooperación que existen entre las Partes,

Tomando en consideración que el propósito de este Acuerdo es el de promover y expandir las actividades de cooperación entre las Partes en apoyo al desarrollo social, cultural, económico, educacional y tecnológico de los Estados Unidos de América y la República de México,

Considerando la importancia que imponen las Partes al establecimiento de un diálogo permanente sobre el fortalecimiento del recurso humano como la base para el desarrollo social, cultural, económico, educativo y tecnológico de ambas naciones, y

Considerando que las metas mutuas de las Partes son las de promover el desarrollo del recurso humano y fortalecer las capacidades profesionales, la profundización de las relaciones internacionales, y el compromiso de cada uno con el sistema de iniciativas públicas y privadas para el desarrollo económico, social, educativo y cultural de ambas instituciones.

Las Partes, representadas por Dr. José Manuel Asún Jordan, Sch. P. Rector of Universidad Cristobal Colon y el Presidente John Crain, de Southeastern Louisiana University, suscriben este Acuerdo de Cooperación, sujeto a las siguientes

CLÁUSULAS

1. Este Acuerdo busca establecer la base para la cooperación en la promoción de actividades de interés mutuo, tales como el desarrollo de programas de intercambio educativo, de capacitación, de investigación y de información.
2. Las Partes se comprometen a promover el desarrollo e implementación de actividades dirigidas al enriquecimiento del recurso humano, investigación, y capacitación en áreas definidas de interés mutuo congruentes con los objetivos de las Partes contratantes, incluyendo educación, comercio, cultura, etc. y en otros tópicos apropiados.

3. Una Comisión Conjunta se constituirá, y será responsable de concretar las metas establecidas en este Acuerdo General. La Comisión, será constituida por los representantes designados de Southeastern y Universidad Cristóbal Colon, y promoverá el desarrollo de proyectos específicos en las áreas de interés particular de estas instituciones. La Comisión Conjunta elaborará un plan de actividades para desarrollar y coordinar Acuerdos Específicos de Cooperación.

4. Para cada actividad, programa, o proyecto desarrollado dentro del contexto de este Acuerdo General, se firmará un Acuerdo Específico de Cooperación para establecer el alcance en detalle de las actividades que se llevarán a cabo, el lugar de su ejecución, las unidades y participantes responsables para su realización, la duración de estas actividades, los recursos necesarios para su realización, así como las responsabilidades financieras y procedimientos pertinentes.

5. Por parte de Southeastern, el desarrollo e implementación de programas, seminarios y otros proyectos relacionados a este Acuerdo General de Cooperación serán coordinadas y administradas a través de oficinas, escuelas, departamentos y entidades afiliadas a Southeastern, incluyendo la Facultad de Administración de Empresas, el Instituto Hispano para Negocios Latino Americanos, el Instituto Para el Desarrollo Global y Doméstico y otras unidades institucionales que puedan aumentar la eficacia de dichos programas, seminarios y proyectos.

6. Este Acuerdo General de Cooperación entrará en vigencia en el momento de su firma y tendrá una duración de 5 años. Cualquiera de la Partes podrá dar por terminado este Acuerdo mediante aviso por escrito, el cual tendrá que ser notificado con tres meses de anticipación a la fecha de la terminación del Acuerdo General, evitando de esta forma el detrimento a los proyectos o actividades bajo la implementación de este Acuerdo General.

7. Este Acuerdo General no constituye una obligación legal o fiscal entre las Partes. Solamente es una declaración de interés para promover el desarrollo de las relaciones que generen un beneficio mutuo para las Partes contratantes. Este acuerdo no afectará de forma alguna el derecho de las instituciones contratantes en suscribir acuerdos similares con otras instituciones.

8. Este Acuerdo General está sujeto solamente a las autoridades de la Universidad Cristóbal Colon (UCC) y a las autoridades de Southeastern establecidas en su pacto constitutivo de asociación, y no impondrá ningún tipo de obligación entre los Gobiernos México o los Estados Unidos de América, o cualquiera de sus oficinas, agentes, o representantes.

En Fe de lo anterior, el presente Acuerdo General se firma en duplicado, a los ______ días del mes de ______ del año 201____

Dr. John Crain
Presidente
Southeastern Louisiana University

Dr. José Manuel Asún Jordan, Sch. P.
Rector
Universidad Cristóbal Colon, Veracruz, Mexico
MEMORANDUM OF UNDERSTANDING-MOU
BETWEEN
UNIVERSIDAD CRISTOBAL COLON, VERACRUZ, MEXICO
AND
SOUTHEASTERN LOUISIANA UNIVERSITY

This Memorandum of Understanding is entered into by the Universidad Cristobal Colon (UCC) and Southeastern Louisiana University (Southeastern), hereafter referred to as the "Parties," which,

Conscious of the friendly relations and cooperation exists between the Parties,

Taking into consideration that the purpose of this MOU is to promote and expand cooperative activities between the Parties in support of the social, cultural, economic, educational, and technological development of Veracruz, Mexico and Louisiana, USA,

Considering the significance that the Parties place upon the establishment of a permanent dialogue concerning the strengthening of human resources as a basis for social, cultural, economic, and educational and technological development of both nations, and

Considering the Parties' mutual goals of promoting the development of the human resource and strengthening the professional capabilities, the deepening of international relations, and each believing firmly in the initiatives for economic, social, and cultural development of both parties

The Parties, represented by Dr. José Manuel Asún Jordan Sch.P. Rector of Universidad Cristobal Colon and President John Crain of Southeastern Louisiana University, therefore subscribe to this Memorandum of Understanding subject to the following:

CLAUSES

1. This General Agreement aims to establish the basis for cooperation in the promotion of activities of mutual interest, such as the development of educational, training, research, and exchange programs.
2. The Parties agree to promote the development and implementation of activities leading to the enrichment of human resources, research, and expertise in defined areas of mutual interest congruent with the fields of action of each of the signing institutions.

3. For each activity, program, or project developed within the framework of this MOU, a Specific Agreement of Cooperation will be signed which will establish in detail the scope of activities to be realized, the place of their realization, the units and participants responsible for their realization, the duration of these activities, and the resources necessary for their realization, as well as relevant financial responsibilities and procedures.

4. For Southeastern, the development and implementation of programs, seminars, and other projects related to this MOU will be coordinated through various Southeastern Louisiana University offices, colleges, departments, and affiliated entities, including the College of Business, the Hispanic Business and Leadership Institute, and the Institute for Global and Domestic Development, that will enhance the efficacy of said programs, seminars, and projects.

5. This MOU becomes effective at the time of its signing and will remain effective for five years. This Agreement can be cancelled by any of the Parties with a written letter submitted three months in advance of the effective date of the MOU’s cancellation, avoiding detriment to projects or activities already under implementation.

6. This General Agreement does not constitute a binding legal or financial relation between the Parties. It is solely a declaration of intent by the Parties to promote the development of authentic relations. Nothing agreed to here shall affect in any way the full right of the signing institutions to establish similar agreements with other institutions or to issue legal norms and regulations pertinent to their manner of operation.

7. This General Agreement is subject only to Universidad Cristobal Colon and Southeastern Louisiana University authorities, and shall not be construed as imposing any liabilities on the Governments of Mexico or the United States of America, the State of Louisiana or any of their offices, agents, or representatives.

This General Agreement is herein signed in duplicate originals by each party, each party to keep an original, on the _____ of ____________, 201____.

Dr. John Crain
President
Southeastern Louisiana University

Dr. José Manuel Asún Jordan Sch.P
Rector
Universidad Cristobal Colon, Veracruz, Mexico
Agreement of Cooperation

Between

Southeastern Louisiana University

And

Universidad Santo Tomas, Colombia

In order to extend the effective and mutually beneficial cooperation and develop academic and cultural exchange in education, Southeastern Louisiana University (Southeastern) and the University St. Thomas Colombia, hereby agree to cooperate toward the internationalization of higher education.

The areas of cooperation will include any program offered at either university which is felt to promote the above-mentioned goals. However, any specific program shall be subject to mutual consent, availability of funds, and the approval of both universities.

The terms of such mutual assistance and cooperation shall be discussed and agreed upon in writing by the responsible authority of each university prior to the initiation of any particular program or activity. This agreement addresses exchange of students.

St. Thomas University students who have completed at least 4 (four) semesters of study at St. Thomas-Colombia and who meet the criteria for undergraduate transfer student admissions listed below will be eligible to study for 4 (four) or more semesters at Southeastern as degree-seeking students. They will be awarded a waiver of the non-resident fees at Southeastern for undergraduate provided they are in good academic standing and enroll full time student each semester, making satisfactory progress toward a degree and meet the following admissions criteria:

1. Must have a cumulative grade point average of 2.5 or higher on all college level work.
2. Must be eligible to return to the last college or university attended.
3. Must have completed college level Math that meets the General Education Requirements
4. Must have taken the TOEFL or IELTS:
   a. Minimum TOEFL scores required - 525 paper-based, 195 computer-based, and 75 internet based
   b. Minimum IELTS score required – 6.0 overall band
Southeastern students who meet the criteria for undergraduate transfer admissions at St. Thomas University will be eligible to study at St. Thomas University as degree-seeking students provided they are in good academic standing and making satisfactory progress toward a degree.

This agreement shall take effect upon approval by both parties and shall remain in effect for an initial period of five years. Thereafter it shall automatically be renewed annually. However, either university may terminate the agreement in writing at least 10 (ten) months prior to the beginning of an academic year.

Date ___________ 2017

Dr. John Crain, President
Southeastern Louisiana University

Fr. Juan Ubaldo Lopez Salamanca, O.P, RECTOR
Universidad Santo Tomas, Colombia
GENERAL MEMORANDUM OF UNDERSTANDING
BETWEEN
UNIVERSIDAD SANTO TOMÁS
AND
SOUTHEASTERN LOUISIANA UNIVERSITY

This Memorandum of Understanding is entered into by the Universidad Santo Tomas and Southeastern Louisiana University (Southeastern), hereafter referred to as the "Parties," which,

Conscious of the friendly relations and cooperation that already exists between the Parties,

Taking into consideration that the purpose of this MOU is to promote and expand cooperative activities between the Parties in support of the social, cultural, economic, educational, and work force development of the United States of America and the Republic of Colombia,

Considering the significance that the Parties place upon the establishment of a permanent dialogue concerning the strengthening of human resources as a basis for social, cultural, economic, and educational and work force development of both nations, and

Considering the Parties' mutual goals of promoting development within the work force sector in Colombia and strengthening the professional capabilities, the deepening of international relations, and each believing firmly in the system of private and public initiatives for economic, social, educational and cultural development of both nations,

The Parties, represented by Fr. Juan Ubaldo LOPEZ SALAMANCA, O.P. of Universidad Santo Tomás, and President John Crain of Southeastern, therefore subscribe to this General MOU, subject to the following:

CLAUSES

1. This General Agreement aims to establish the basis for cooperation in the promotion of activities of mutual interest, such as the development of educational, training, research, and information exchange programs

2. The Parties agree to promote the development and implementation of activities leading to the enrichment of human resources, research, and expertise in defined areas of mutual interest congruent with the fields of action of each of the signing institutions, including education, commerce, culture, and other appropriate areas.

3. A Joint Commission will be constituted that will be responsible for pursuing the goals established in this General Agreement. The Commission, to be constituted by designated representatives from Southeastern and Universidad Santo Tomás, will promote the development of specific projects in these institutions' area of particular interest. The Joint Commission will develop a Plan of Activities to develop and coordinate Specific Agreements of Cooperation.
4. For each activity, program, or project developed within the framework of this General MOU, a Specific Agreement of Cooperation will be signed which will establish in detail the scope of activities to be realized, the place of their realization, the units and participants responsible for their realization, the duration of these activities, and the resources necessary for their realization, as well as relevant financial responsibilities and procedures.

5. For Southeastern, the development and implementation of programs, seminars, and other projects related to this MOU will be coordinated and administered through various Southeastern Louisiana University offices, colleges, departments, and affiliated entities, including the College of Business, The Hispanic Business Institute, the International Initiatives Office, the Institute for Global and Domestic Development, and other institutional units that will enhance the efficacy of said programs, seminars, and projects.

6. This General Agreement of Cooperation becomes effective at the time of its signing and will remain effective for five years. This Agreement can be cancelled by any of the Parties with a written letter submitted three months in advance of the effective date of the General Agreement's cancellation, avoiding detriment to projects or activities already under implementation.

7. This MOU does not constitute a binding legal or financial relation between the Parties. It is solely a declaration of intent by the Parties to promote the development of authentic relations of mutual benefit. Nothing agreed to here shall affect in any way the full right of the signing institutions to establish similar agreements with other institutions or to issue legal norms and regulations pertinent to their manner of operation.

8. This MOU is subject only to Universidad Santo Tomás and Southeastern Louisiana University authorities as specified in their articles of association, and shall not be construed as imposing any liabilities on the Governments of Colombia or the United States of America, the State of Louisiana or any of their offices, agents, or representatives.

This MOU is herein signed in duplicate originals by each party, each party to keep an original, on the 23 of March, 2017.

Dr. John Crain
President
Southeastern Louisiana University

Fr. Juan Ubaldo LOPEZ SALAMANCA, O.P.
Rector
Universidad Santo Tomás
Agreement of Cooperation

Between

Southeastern Louisiana University

And

Universidad de Cartagena, Colombia

In order to extend the effective and mutually beneficial cooperation and develop academic and cultural exchange in education, Southeastern Louisiana University (Southeastern) and the University Cartagena Colombia, hereby agree to cooperate toward the internationalization of higher education.

The areas of cooperation will include any program offered at either university which is felt to promote the above-mentioned goals. However, any specific program shall be subject to mutual consent, availability of funds, and the approval of both universities.

The terms of such mutual assistance and cooperation shall be discussed and agreed upon in writing by the responsible authority of each university prior to the initiation of any particular program or activity. This agreement addresses exchange of students.

St. Thomas University students who have completed at least 4 (four) semesters of study at St. Thomas Colombia and who meet the criteria for undergraduate transfer student admissions listed below will be eligible to study for 4 (four) or more semesters at Southeastern as degree-seeking students. They will be awarded a waiver of the non-resident fees at Southeastern for undergraduate provided they are in good academic standing and enroll full time student each semester, making satisfactory progress toward a degree and meet the following admissions criteria:

1. Must have a cumulative grade point average of 2.5 or higher on all college level work.
2. Must be eligible to return to the last college or university attended.
3. Must have completed college level Math that meets the General Education Requirements
4. Must have taken the TOEFL or IELTS:
   a. Minimum TOEFL scores required - 525 paper-based, 195 computer-based, and 75 internet based
   b. Minimum IELTS score required – 6.0 overall band
Southeastern students who meet the criteria for undergraduate transfer admissions at Cartagena University will be eligible to study at Cartagena University as degree-seeking students provided they are in good academic standing and making satisfactory progress toward a degree.

This agreement shall take effect upon approval by both parties and shall remain in effect for an initial period of five years. Thereafter it shall automatically be renewed annually. However, either university may terminate the agreement in writing at least 10 (ten) months prior to the beginning of an academic year.

Date: ___________________________ 2017

Dr. John Crain, President
Southeastern Louisiana University

Dr. Edgar Parra Chacón, RECTOR
Universidad de Cartagena, Colombia
GENERAL MEMORANDUM OF UNDERSTANDING
BETWEEN
UNIVERSIDAD DE CARTAGENA
AND
SOUTHEASTERN LOUISIANA UNIVERSITY

This Memorandum of Understanding is entered into by the Universidad de Cartagena and Southeastern Louisiana University (Southeastern), hereafter referred to as the "Parties," which,

Conscious of the friendly relations and cooperation that already exists between the Parties,

Taking into consideration that the purpose of this MOU is to promote and expand cooperative activities between the Parties in support of the social, cultural, economic, educational, and workforce development of the United States of America and the Republic of Colombia,

Considering the significance that the Parties place upon the establishment of a permanent dialogue concerning the strengthening of human resources as a basis for social, cultural, economic, and educational and workforce development of both nations, and

Considering the Parties' mutual goals of promoting development within the workforce sector in Colombia and strengthening the professional capabilities, the deepening of international relations, and each believing firmly in the system of private and public initiatives for economic, social, educational and cultural development of both nations,

The Parties, represented by Dr. Edgar Parra Chacón and President John Crain of Southeastern, therefore subscribe to this General MOU, subject to the following:

CLAUSES

1. This General Agreement aims to establish the basis for cooperation in the promotion of activities of mutual interest, such as the development of educational, training, research, and information exchange programs

2. The Parties agree to promote the development and implementation of activities leading to the enrichment of human resources, research, and expertise in defined areas of mutual interest congruent with the fields of action of each of the signing institutions, including education, commerce, culture, and other appropriate areas.

3. A Joint Commission will be constituted that will be responsible for pursuing the goals established in this General Agreement. The Commission, to be constituted by designated representatives from Southeastern and Universidad de Cartagena.
will promote the development of specific projects in these institutions' area of particular interest. The Joint Commission will develop a Plan of Activities to develop and coordinate Specific Agreements of Cooperation.

4. For each activity, program, or project developed within the framework of this General MOU, a Specific Agreement of Cooperation will be signed which will establish in detail the scope of activities to be realized, the place of their realization, the units and participants responsible for their realization, the duration of these activities, and the resources necessary for their realization, as well as relevant financial responsibilities and procedures.

5. For Southeastern, the development and implementation of programs, seminars, and other projects related to this MOU will be coordinated and administered through various Southeastern Louisiana University offices, colleges, departments, and affiliated entities, including the College of Business, The Hispanic Business Institute, the International Initiatives Office, the Institute for Global and Domestic Development, and other institutional units that will enhance the efficacy of said programs, seminars, and projects.

6. This General Agreement of Cooperation becomes effective at the time of its signing and will remain effective for five years. This Agreement can be cancelled by any of the Parties with a written letter submitted three months in advance of the effective date of the General Agreement's cancellation, avoiding detriment to projects or activities already under implementation.

7. This MOU does not constitute a binding legal or financial relation between the Parties. It is solely a declaration of intent by the Parties to promote the development of authentic relations of mutual benefit. Nothing agreed to here shall affect in any way the full right of the signing institutions to establish similar agreements with other institutions or to issue legal norms and regulations pertinent to their manner of operation.

8. This MOU is subject only to Universidad de Cartagena and Southeastern Louisiana University authorities as specified in their articles of association, and shall not be construed as imposing any liabilities on the Governments of Colombia or the United States of America, the State of Louisiana or any of their offices, agents, or representatives.

This MOU is herein signed in duplicate originals by each party, each party to keep an original, on the _____ of ____________, 2016.

Dr. John Crain
President
Southeastern Louisiana University

Dr. Edgar Parra Chacón
Rector
Universidad de Cartagena
GENERAL MEMORANDUM OF UNDERSTANDING
BETWEEN
UNIVERSIDAD DE CARTAGENA
AND
SOUTHEASTERN LOUISIANA UNIVERSITY

This Memorandum of Understanding is entered into by the Universidad de Cartagena and Southeastern Louisiana University (Southeastern), hereafter referred to as the "Parties," which,

Conscious of the friendly relations and cooperation that already exists between the Parties,

Taking into consideration that the purpose of this MOU is to promote and expand cooperative activities between the Parties in support of the social, cultural, economic, educational, and work force development of the United States of America and the Republic of Colombia.

Considering the significance that the Parties place upon the establishment of a permanent dialogue concerning the strengthening of human resources as a basis for social, cultural, economic, and educational and work force development of both nations, and

Considering the Parties’ mutual goals of promoting development within the work force sector in Colombia and strengthening the professional capabilities, the deepening of international relations, and each believing firmly in the system of private and public initiatives for economic, social, educational and cultural development of both nations,

The Parties, represented by Dr. Edgar Parra Chacón and President John Crain of Southeastern, therefore subscribe to this General MOU, subject to the following:

CLARUSES

1. This General Agreement aims to establish the basis for cooperation in the promotion of activities of mutual interest, such as the development of educational, training, research, and information exchange programs

2. The Parties agree to promote the development and implementation of activities leading to the enrichment of human resources, research, and expertise in defined areas of mutual interest congruent with the fields of action of each of the signing institutions, including education, commerce, culture, and other appropriate areas.

3. A Joint Commission will be constituted that will be responsible for pursuing the goals established in this General Agreement. The Commission, to be constituted by designated representatives from Southeastern and Universidad de Cartagena.
will promote the development of specific projects in these institutions' area of particular interest. The Joint Commission will develop a Plan of Activities to develop and coordinate Specific Agreements of Cooperation.

4. For each activity, program, or project developed within the framework of this General MOU, a Specific Agreement of Cooperation will be signed which will establish in detail the scope of activities to be realized, the place of their realization, the units and participants responsible for their realization, the duration of these activities, and the resources necessary for their realization, as well as relevant financial responsibilities and procedures.

5. For Southeastern, the development and implementation of programs, seminars, and other projects related to this MOU will be coordinated and administered through various Southeastern Louisiana University offices, colleges, departments, and affiliated entities, including the College of Business, The Hispanic Business Institute, the International Initiatives Office, the Institute for Global and Domestic Development, and other institutional units that will enhance the efficacy of said programs, seminars, and projects.

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8. This MOU is subject only to Universidad de Cartagena and Southeastern Louisiana University authorities as specified in their articles of association, and shall not be construed as imposing any liabilities on the Governments of Colombia or the United States of America, the State of Louisiana or any of their offices, agents, or representatives.

This MOU is herein signed in duplicate originals by each party, each party to keep an original, on the [date], 2016.

Dr. John Crain  
President  
Southeastern Louisiana University

Dr. Edgar Parra Chacón  
Rector  
Universidad de Cartagena
ACUERDO GENERAL DE COOPERACIÓN
ENTRE
UNIVERSIDAD DE CARTAGENA
Y
SOUTHEASTERN LOUISIANA UNIVERSITY

Este Acuerdo se da entre la Universidad de Cartagena y Southeastern Louisiana University (Southeastern), en adelante referidas como "Las Partes", quienes, conscientes de las relaciones de amistad y cooperación que existen entre las Partes, tomando en consideración que el propósito de este Acuerdo es el de promover y expandir las actividades de cooperación entre las Partes en apoyo al desarrollo social, cultural, económico, educacional y tecnológico de los Estados Unidos de América y la República de Colombia.

Considerando

- la importancia que imponen las Partes al establecimiento de un diálogo permanente sobre el fortalecimiento del recurso humano como la base para el desarrollo social, cultural, económico, educativo y tecnológico de ambas naciones, y

- que las metas mutuas de las Partes son las de promover el desarrollo del recurso humano en Colombia y fortalecer las capacidades profesionales, la profundización de las relaciones internacionales, y el compromiso de cada uno con el sistema de iniciativas públicas y privadas para el desarrollo económico, social, educativo y cultural de ambas naciones.

Las Partes, representadas por el Rector de la Universidad de Cartagena Edgar Parra Chacón y el Presidente John Crain, de Southeastern Louisiana University, suscriben este Acuerdo de Cooperación, sujeto a las siguientes:
CLÁUSULAS

1. Este Acuerdo busca establecer la base para la cooperación en la promoción de actividades de interés mutuo, tales como el desarrollo de programas de intercambio educativo, de capacitación, de investigación y de información.

2. Las Partes se comprometen a promover el desarrollo e implementación de actividades dirigidas al enriquecimiento del recurso humano, investigación, y capacitación en áreas definidas de interés mutuo congruentes con los objetivos de las Partes contratantes, incluyendo educación, comercio, cultura, etc. en otros tópicos apropiados.

3. Una Comisión Conjunta se constituirá, y será responsable de concretar las metas establecidas en este Acuerdo General. La Comisión, será constituida por los representantes designados de Southeastern y la Universidad de Cartagena, y promoverá el desarrollo de proyectos específicos en las áreas de interés particular de estas instituciones. La Comisión Conjunta elaborará un plan de actividades para desarrollar y coordinar Acuerdos Específicos de Cooperación.

4. Para cada actividad, programa, o proyecto desarrollado dentro del contexto de este Acuerdo General, se firmará un Acuerdo Específico de Cooperación para establecer el alcance en detalle de las actividades que se llevarán a cabo, el lugar de su ejecución, las unidades y participantes responsables para su realización, la duración de estas actividades, los recursos necesarios para su realización, así como las responsabilidades financieras y procedimientos pertinentes.

5. Por parte de Southeastern, el desarrollo e implementación de programas, seminarios y otros proyectos relacionados a este Acuerdo General de Cooperación serán coordinadas y administradas a través de oficinas, escuelas, departamentos y entidades afiliadas a Southeastern, incluyendo la Oficina de Iniciativas Internacionales, la Facultad de Negocios, el Instituto Hispano para Negocios Latino Americanos, el Instituto Para el Desarrollo Global y Doméstico y otras unidades institucionales que puedan aumentar la eficacia de dichos programas, seminarios y proyectos.

6. Este Acuerdo General de Cooperación entrará en vigencia en el momento de su firma y tendrá una duración de 5 años. Cualquiera de la Partes podrá dar por terminado este
Acuerdo mediante aviso por escrito, el cual tendrá que ser notificado con tres meses de anticipación a la fecha de la terminación del Acuerdo General, evitando de esta forma el detrimento a los proyectos o actividades bajo la implementación de este Acuerdo General.

7. Este Acuerdo General no constituye una obligación legal o fiscal entre las Partes. Solamente es una declaración de interés para promover el desarrollo de las relaciones que generen un beneficio mutuo para las Partes contratantes. Este acuerdo no afectará de alguna forma el derecho de las instituciones contratantes en suscribir acuerdos similares con otras instituciones.

8. Este Acuerdo General está sujeto solamente a las autoridades de la Universidad de Cartagena y a las autoridades de Southeastern Louisiana University establecidas en su pacto constitutivo de asociación, y no impondrá ningún tipo de obligación entre los Gobiernos de Colombia y los Estados Unidos de América, o cualquiera de sus oficinas, agentes o representantes.

En Fe de lo anterior, el presente Acuerdo General se firma en duplicado, a los ____ días del mes de ______ del año 2016.

DR. JOHN CRAIN
Presidente
Southeastern Louisiana University

DR. EDGAR PARRA CHACÓN
Rector
Universidad de Cartagena
ACUERDO GENERAL DE COOPERACIÓN
ENTRE
UNIVERSIDAD DE CARTAGENA
Y
SOUTHEASTERN LOUISIANA UNIVERSITY

Este Acuerdo se da entre la Universidad de Cartagena y Southeastern Louisiana University (Southeastern), en adelante referidas como "Las Partes", quienes, conscientes de las relaciones de amistad y cooperación que existen entre las Partes, tomando en consideración que el propósito de este Acuerdo es el de promover y expandir las actividades de cooperación entre las Partes en apoyo al desarrollo social, cultural, económico, educacional y tecnológico de los Estados Unidos de América y la República de Colombia.

Considerando

- la importancia que imponen las Partes al establecimiento de un diálogo permanente sobre el fortalecimiento del recurso humano como la base para el desarrollo social, cultural, económico, educativo y tecnológico de ambas naciones, y

- que las metas mutuas de las Partes son las de promover el desarrollo del recurso humano en Colombia y fortalecer las capacidades profesionales, la profundización de las relaciones internacionales, y el compromiso de cada uno con el sistema de iniciativas públicas y privadas para el desarrollo económico, social, educativo y cultural de ambas naciones.

Las Partes, representadas por el Rector de la Universidad de Cartagena Edgar Parra Chacón y el Presidente John Crain, de Southeastern Louisiana University, suscriben este Acuerdo de Cooperación, sujeto a las siguientes:
CLÁUSULAS

1. Este Acuerdo busca establecer la base para la cooperación en la promoción de actividades de interés mutuo, tales como el desarrollo de programas de intercambio educativo, de capacitación, de investigación y de información.

2. Las Partes se comprometen a promover el desarrollo e implementación de actividades dirigidas al enriquecimiento del recurso humano, investigación, y capacitación en áreas definidas de interés mutuo congruentes con los objetivos de las Partes contratantes, incluyendo educación, comercio, cultura, etc. en otros tópicos apropiados.

3. Una Comisión Conjunta se constituirá, y será responsable de concretar las metas establecidas en este Acuerdo General. La Comisión, será constituida por los representantes designados de Southeastern y la Universidad de Cartagena, y promoverá el desarrollo de proyectos específicos en las áreas de interés particular de estas instituciones. La Comisión Conjunta elaborará un plan de actividades para desarrollar y coordinar Acuerdos Específicos de Cooperación.

4. Para cada actividad, programa, o proyecto desarrollado dentro del contexto de este Acuerdo General, se firmará un Acuerdo Específico de Cooperación para establecer el alcance en detalle de las actividades que se llevarán a cabo, el lugar de su ejecución, las unidades y participantes responsables para su realización, la duración de estas actividades, los recursos necesarios para su realización, así como las responsabilidades financieras y procedimientos pertinentes.

5. Por parte de Southeastern, el desarrollo e implementación de programas, seminarios y otros proyectos relacionados a este Acuerdo General de Cooperación serán coordinadas y administradas a través de oficinas, escuelas, departamentos y entidades afiliadas a Southeastern, incluyendo la Oficina de Iniciativas Internacionales, la Facultad de Negocios, el Instituto Hispano para Negocios Latino Americanos, el Instituto Para el Desarrollo Global y Doméstico y otras unidades institucionales que puedan aumentar la eficacia de dichos programas, seminarios y proyectos.

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Acuerdo mediante aviso por escrito, el cual tendrá que ser notificado con tres meses de anticipación a la fecha de la terminación del Acuerdo General, evitando de esta forma el detrimento a los proyectos o actividades bajo la implementación de este Acuerdo General.

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En fe de lo anterior, el presente Acuerdo General se firma en duplicado, a los _____ días del mes de ______ del año 2016.

DR. JOHN CRAIN
Presidente
Southeastern Louisiana University

DR. EDGAR PARRA CHACÓN
Rector
Universidad de Cartagena
BOARD OF SUPERVISORS FOR THE UNIVERSITY OF LOUISIANA SYSTEM

ACADEMIC AND STUDENT AFFAIRS COMMITTEE

April 20, 2017

Item G.7. University of Louisiana at Lafayette’s request for approval of a Proposal for a Master of Science in Informatics degree program.

EXECUTIVE SUMMARY

The University of Louisiana at Lafayette (UL Lafayette) requests approval of a Proposal for a Master of Science (MS) in Informatics. The Letter of Intent was approved by the Board of Supervisors for the University of Louisiana System in June 2015 with subsequent approval by the Board of Regents in December 2015. In accordance with Regents’ Academic Affairs Policy 2.05, the graduate-level program proposal was reviewed by an external consultant. Dr. Il-Yeol Song, Professor, The College of Computing & Informatics, Drexel University, was extremely supportive of the proposed program and stated the following in his report: “UL Lafayette’s MS in Informatics will address the current and expected demand for well-prepared computing and information technology professionals across the state, including the Acadiana region.” Suggestions provided by Dr. Song were incorporated into the proposal resulting in a stronger program concept.

The mission and purpose of the proposed program is to educate graduate students in the use of the scientific method for the application of computing and information technologies, as well as the design, maintenance, and adaptation of information systems that solve problems with an understanding of human needs and context. Graduates of the 33-credit-hour program will be trained in the Information Technology (IT) aspect of enterprise computing, regardless of end-user/organization domain or area. Enterprise computing involves all the diverse computing solutions, such as database systems, network, and Web infrastructure, application software, and business processes. The curriculum of the proposed MS is organized as four components: 18 hours of core coursework; 3 hours of elective coursework; 6 hours from either elective coursework or coursework relevant to a course thread; and the thesis (6 hours of thesis research) or non-thesis option (3-hour Special Program course and 3-hour Capstone course). The proposed degree is currently intended to be offered in a traditional, face-to-face delivery method.

The curriculum is sufficiently generalized to allow graduates to find employment, both within and outside Louisiana, with companies such as the recently opened CGI, Perficient, Enquero, GE Capital Technology Center, IBM Baton Rouge, and CenturyLink in Monroe, to name a few. As Lafayette continues to develop into a regional hub for such services and information technology industries, the initial area of focus of the proposed program is the goal of using information in organizations to improve products and services. Students completing the proposed program will be well-prepared for one or more of the following: (1) to pursue a
doctoral program in fields such as Informatics, Information Systems or Information Technology; (2) to pursue middle/upper management positions (e.g., Technology Manager, Chief Information Officer); or (3) to pursue mid-career professional advancement.

According to information provided by Louisiana Economic Development (LED), Louisiana’s traditional and emerging industries continue to grow at a healthy rate. These industries include: aerospace, agribusiness, automotive, energy, entertainment & game design; manufacturing; process industries, software development, and water management. Additionally, several key technology companies include IBM, CenturyLink, CGA, Eaquero, and Perficient. Not only do these technology companies require computer and information technology solutions which are developed and deployed in Informatics professionals, but so-called non-technology companies (e.g., Bell Helicopters, Benteler, ConAgra Foods, and others) also do. Letters of support submitted by many of these companies indicate strong support of the proposed program since it will offer courses aligned with industry need, incorporate industry relevant technologies and software development methodologies into course design, and provide for industry internships and capstones opportunities.

In regards to current program offerings in the State by public universities, there are several Masters-level degree programs in the area of Computer and Information Sciences. These programs are aligned with particular areas of computer science, information systems, and computing technology. In contrast to these existing programs, the program proposed by UL Lafayette is a multi-disciplinary field of science that involves the study and use of computational thinking as applied to user-centered structure, behavior, and interactions of natural and artificial systems (technics) that store, process, and communicate information. Information sciences, human-computer interaction, and information architecture and management, are among the areas of study in Informatics. The proposed MS is not intended to replace, mimic, detract from, or compete with existing programs. UL Lafayette views the proposed program as one that will complement existing programs and one that will enhance both the quality and quantity of trained people in both core and applied Computer/IT areas.

A strong student base will come from existing programs at UL Lafayette, especially undergraduate students majoring in Informatics. A survey of senior undergraduate students majoring in Informatics was conducted in February 2015. Of the 22 respondents, 20 (91%) indicated an interest in pursuing a program like the one proposed. The University projects an enrollment of 10 students in Year One with that number increasing to 28 by Year Five.

The proposed program will be housed within the Ray P. Authement College of Sciences. Existing infrastructure, library holdings, and related equipment are adequate to meet anticipated need. Sufficient faculty are in place to provide instructional support. The proposed program can be fully implemented with little new cost to UL Lafayette as there will be no new additional funds required for supplies, operating expenses, or travel. Cost incurred for graduate assistants and adjunct faculty represent a minimal but necessary investment and will be matched by industry-supported internships and offset by tuition revenue.
By capitalizing upon existing resources, UL Lafayette will be able to offer a program that has been designed to address industry needs at minimal cost. The proposed program will directly support the computing and information technology needs and requirements of key companies that have recently established facilities in the Acadiana region, as well as across the state.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves University of Louisiana at Lafayette's request for approval of a Proposal for a Master of Science in Informatics degree program.
March 30, 2017

Dr. James B. Henderson  
President  
University of Louisiana System  
1201 North Third Street, Suite 7-300  
Baton Rouge, LA 70802

Dear Dr. Henderson:

This is a request for approval of the revised request for authority to offer a new degree program, the Master of Science in Informatics.

Please place this item on the agenda for consideration at the April 2017 meeting of the Board of Supervisors.

Sincerely,

E. Joseph Savoie  
President

Atchments
Louisiana Board of Regents

AA 2.05: REQUEST FOR AUTHORITY TO OFFER A NEW DEGREE PROGRAM
-- Including incremental credentials building up to the Degree --
"Prior to final action by the Board of Regents, no institution may initiate or publicize a new program."

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<td>Informatics; CIP 11.0104, Master of Science in Informatics</td>
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Contact Person & Contact Info

Dr. Michael W. Totaro, Associate Professor
School of Computing and Informatics
Ray P. Authement College of Sciences
University of Louisiana at Lafayette
(337) 482-5597
miket@louisiana.edu

Date Letter of Intent was approved by Board of Regents: 12/14/2015
Date this Proposal was approved by Governing Board:
Planned Semester/Term & Year to Begin Offering Program: Spring 2017

1. Program Description

Describe the program concept: (a) purpose and objectives; (b) mode of delivery (on-site/hybrid/on-line). Describe plan for developing and rolling out new courses.

(a) Purpose and Objectives

The Mission and Purpose of the Master of Science in Informatics (MSI) program is to educate graduate students in the application of the scientific method to computing and information technologies, as well as to educate graduate students in the design, maintenance, and adaptation of information systems that solve problems pertinent to human needs. As defined by the National Center for Education Statistics (NCES), and as per The Integrated Postsecondary Education Data System (IPEDS), Classification of Instructional Programs (CIP), Informatics, as a field of study, is: "a program that focuses on computer systems from a user-centered perspective and studies the structure, behavior and interactions of natural and artificial systems that store, process and communicate information. It includes instruction in information sciences, human computer interaction, information system analysis and design, telecommunications structure and information architecture and management" (from http://nces.ed.gov/ipeds/cipcode/searchresults.aspx?y=55&aw=Informatics&awv=1,2,3&ct=1,2,3&cas=1,2,3,4). As such, our Master of Science in Informatics program is designed to support advanced education and research in the Information sciences and information technology. This program is consistent with one of several strategic initiatives described in the framework “Fostering innovation through Research in Science and Technology in Louisiana” (FIRST Louisiana).

Our graduates will be trained in the Information Technology aspect of enterprise computing, regardless of end-user/organization domain or area. Enterprise computing includes the analytics, reporting, database management, and other software solutions systems, which span the entire organization. The curriculum is sufficiently generalized to allow graduates to find employment both within and outside of Louisiana, primarily with IT companies. Examples of such companies in Louisiana include the recently opened CGI, Perfluent, and Enquero in Lafayette, GE Capital Technology Center, IBM Baton Rouge, and CenturyLink in Monroe, to name a few. As Lafayette continues to develop into a regional hub for information technology industries and services, the initial area of focus of the program will be to use information in local and regional organizations in order to improve products and services.

The objectives of our Master of Science in Informatics program are as follows:

A. To provide a curriculum that encompasses the breadth of the field of Informatics (applied computing and Information technology), and provides depth in one of several specialized areas.

B. To prepare graduate students to function professionally in the field of Informatics and/or to pursue graduate research in Informatics or related fields.

C. To develop graduate students’ computational and critical thinking, as well as problem-solving skills, through use of the scientific method.

Upon successful completion of the Master of Science in Informatics program, graduates will:

A.1 Understand and employ the fundamental principles of the science of Informatics, including those of pervasive themes in Informatics, history of information technology, Information technology and its related and informing disciplines, and application domains;
A.2 Analyze and design computing and information technology hardware and software infrastructures that are of varying complexity and configuration, as applied to a variety of criteria and/or processes relevant to the task;

B.1 Apply concepts and analytical methods used in the computational, natural, mathematical, and social sciences to the design and implementation of computing and information technology solutions across multiple domains;

B.2 Understand the professional, ethical, legal, and societal issues and responsibilities of the design and application of computing and information technology solutions, as well as their global impact;

C.1 Acquire the ability to solve structured, unstructured, and semi-structured problems by means of computational thinking and appropriate design choices, and to demonstrate a working knowledge of current Informatics tools, techniques, and skills.

Although there are other graduate programs in the field of Informatics at various institutions across the United States (for example, at Indiana University) our Master of Science in Informatics program would be the first of its kind in Louisiana.

Students who complete our Master of Science in Informatics Program will be well-prepared for one or more of the following:

1. To pursue a doctoral degree in fields such as: Informatics, Information Systems, or Information Technology; or
2. To pursue middle-/upper-management positions (e.g., Technology manager; Chief Information Officer); or
3. To attain mid-career professional advancement (e.g., Professional recognition award, etc.)

Application of the Scientific Method:
Our Master of Science in Informatics Program integrates the use and application of the scientific method (see Scientific Method in Practice, by Hugh G. Gauch, Jr., Cambridge University Press, 2002) in several of the required courses. These courses are described in the curriculum section below.

Other Resources Needed:
None.

(b) Mode of Delivery

The mode of delivery for UL Lafayette’s Master of Science in Informatics Program is face-to-face (i.e., on-site).

Plan for Developing and Rolling out New Courses
Courses at the 500-level shall be created, pending final approval of the Master of Science in Informatics Program (Please see the curriculum section below for proposed courses and their descriptions.) The course rollout plan is such that 16 lecture courses and 2 Master’s Project and/or Thesis Research and Thesis courses will be rolled out over four consecutive semesters. Based on the number of faculty teaching in the degree program, we anticipate that each faculty member will develop one or two (but no more than two) of the courses, as follows:

Spring 2017:
INFX 500 Introduction to Informatics
INFX 501 Foundations of Informatics
INFX 510 Human-Computer Interaction (HCI) in Informatics
INFX 540 Informatics Network Infrastructures and Management

Fall 2017:
INFX 502 Systematic Methods in Informatics
INFX 512 Data Analysis and Visualization
INFX 530 Database and Network Systems
INFX 580 Systems Development

Spring 2018:
INFX 520 IT and Network Security
INFX 590 IT Governance, Risk Management, and Compliance (GRC)
INFX 570 Web Application Development
INFX 581 Process Analysis, Modeling and Design
INFX 599 Thesis Research and Thesis

Fall 2018:
INFX 531 Distributed Database Management
INFX 532 Data Mining and Business Intelligence
INFX 575 Mobile Application Development and Design
INFX 591 Informatics Capstone
INFX 595 Master’s Project
Map out the proposed curriculum, in sequence, identifying any incremental credentials and/or concentrations within the degree. Indicate which courses will be new, including those that would be offered in the new program as electives. Describe any special requirements (e.g., internships, comprehensive exam, thesis, etc.).

**Basic Structure of the Curriculum and Components/Concentrations:**

The Master of Science in Informatics Program requires students’ completion of 33 graduate credit hours for both thesis and non-thesis options. Thus, a full-time student can complete the curriculum in four regular semesters or roughly 24 months.

Students may pursue several course threads, which include but are not limited to the following areas: Business, Media Technology, System Administration, and Web Development.

There are two tracks available to earn the Master of Science in Informatics:

- Master of Science in Informatics with an undergraduate degree in a related field (e.g., informatics, computer science, computer engineering)
- Master of Science in Informatics with an undergraduate degree in another field

**Track 1: Master of Science in Informatics with an undergraduate degree in a related field**

The Master of Science in Informatics with an undergraduate degree in a related field is organized as four components:

1. At least 18 credit hours of required core coursework;
2. At least 3 credit hours of elective INFX coursework;
3. At most 6 credit hours from one of the following options:
   a. additional INFX elective coursework; or
   b. elective coursework in a relevant discipline outside of INFX – for example, Biology, Business, Geology, Mathematics, Physics, Psychology, and other disciplines (as approved by the Informatics Graduate Coordinator);
4. One of the following:
   a. Non-thesis option: 3 credit hours of INFX 597 (Special Project) and 3 credit hours of INFX 595 (Capstone); or

**Track 2: Master of Science in Informatics with an undergraduate degree in another field**

The Master of Science in Informatics with an undergraduate degree in another field is organized as four components:

1. At most 6 credit hours of Foundation coursework, which shall include both INFX 500 and INFX 530;
2. At least 18 credit hours of required core coursework;
3. At most 3 credit hours from one of the following options:
   a. additional INFX elective coursework; or
   b. elective coursework in a relevant discipline outside of INFX – for example, Biology, Business, Geology, Mathematics, Physics, Psychology, and other disciplines (as approved by the Informatics Graduate Coordinator);
4. One of the following:
   a. Non-thesis option: 3 credit hours of INFX 597 (Special Project) and 3 credit hours of INFX 595 (Capstone); or

Graduate courses in Informatics shall be organized as follows:

**FOUNDATION**

INFX 500 Introduction to Informatics
INFX 530 Database and Network Systems

**REQUIRED CORE COURSES**

INFX 501 Foundations of Informatics
INFX 502 Systematic Methods in Informatics
INFX 510 Human-Computer Interaction (HCI) in Informatics
INFX 540 Informatics Network Infrastructures and Management
INFX 580 Systems Development
INFX 590 IT Governance, Risk Management, and Compliance (GRC)
ELECTIVES
INFX 512 Data Analysis and Visualization
INFX 520 IT and Network Security
INFX 531 Distributed Database Management
INFX 532 Data Mining and Business Intelligence
INFX 533 Cloud Computing and Big Data Applications
INFX 570 Web Application Development
INFX 575 Mobile Application Development and Design
INFX 581 Process Analysis, Modeling and Design

CAPSTONE
INFX 591 Informatics Capstone

PROJECT OR THESIS
INFX 595 Master’s Project
INFX 599 Thesis Research and Thesis

ELECTIVES OUTSIDE OF INFX
A maximum of six hours may, with the approval of the student’s committee chair and the Graduate Coordinator, be taken in a discipline other than Informatics.

COURSE DESCRIPTIONS

FOUNDATION
INFX 500 Introduction to Informatics (3 credit hours). This course is intended for students whose prior university studies are in non-computing areas. It provides students with a breadth-level foundation of the Informatics discipline: namely, an overview of computing architectures, algorithms and programming, operating systems, data structures, file organization, and databases concepts.

INFX 530 Database and Network Systems (3 credit hours). This course is intended for students whose prior university studies are in non-computing areas. It provides students with a breadth-level foundation in the Informatics areas of database systems and network infrastructures.

REQUIRED CORE COURSES
INFX 501 Foundations of Informatics (3 credit hours). This course serves as an intensive introduction to the most central technical tools of Informatics: most importantly, probability and statistics, computation and data analysis (using R). It also examines ethical, legal, and social issues surrounding contemporary research and practice in science informatics. Topics include the nature of science and technology, the ramifications of recent advances in science Informatics, relevant science policy, ethics, and surveys of diverse theories of globalization to identify the best approaches for professional informatics career planning.

INFX 502 Systematic Methods in Informatics (3 credit hours). This course surveys a broad range of research methods employed in Informatics. The course explores the theoretical foundation and exemplifies the application of systematic methods to specific research questions. The course introduces qualitative and quantitative research methods in sampling, data collection, data analysis and the mathematical prerequisites for understanding probability and statistics.

INFX 510 Human-Computer Interaction (HCI) in Informatics (3 credit hours). This course explores, analyzes, and appraises underlying assumptions and the rationale behind some of the most influential theoretical attempts in HCI and related fields. This course offers a survey of the field of Human-Computer Interaction Design. It introduces interaction design, cognitive modeling, distributed cognition, computer-supported cooperative work, data visualization, ubiquitous computing, affective computing, and domestic computing.

INFX 540 Informatics Network Infrastructures and Management (3 credit hours). This course presents the foundations of data communications — with particular emphasis on the ISO-OSI Reference Model and TCP/IP — and takes a bottom-up approach to computer networks. The course concludes with an overview of core network security and management concepts.

INFX 580 Systems Development (3 credit hours). This course provides students with the tools and skills needed to define, understand, and implement successful enterprise architectures that provide real value to organizations. Agile (e.g., Scrum) and object-oriented methods of information systems analysis and design for organizations with data-processing needs are discussed. The course aims to develop proficiency in all basic project management tools and software techniques, including software architecture, project communications, risk analysis, cost estimation and budgeting, and quality control, as well as proficiency in preparing and implementing a comprehensive project plan and a software development life cycle. This course will enhance students' competence sufficiently to oversee the architecture, design, and implementation of software systems.
INFX 590 IT Governance, Risk Management, and Compliance (GRC) (3 credit hours). This course looks at systems and protocols, and prepares students to design threat models and to use a large number of current security technologies and concepts to block specific vulnerabilities. The course begins with an introduction to relevant definitions (i.e. security, privacy, trust, etc.), then moves to a series of timely case studies of security technologies. This course covers the integration of risk management into governance and compliance but it is not limited to security design/implementations that allocate risk, determine authority, reify or alter relationships, and determine trust extended to organizational participants.

**ELECTIVES**

**INFX 512 Data Analysis and Visualization (3 credit hours).** This course focuses on analytical reasoning facilitated by interactive visual interfaces. It serves as an introduction to the science and technology of visual analytics. The course content will include both theoretical foundations of this interdisciplinary science as well as practical applications of integrated visual analysis techniques to real-world problems.

**INFX 520 IT and Network Security (3 credit hours).** This course is an extensive survey of system and network security. It discusses methodologies for identifying, quantifying, mitigating, and controlling risks. Students implement comprehensive IT risk management plans (RMP) that identify alternate sites for processing mission-critical applications, and techniques to recover infrastructure, systems, networks, data, and user access. The course provides the foundation for more advanced security courses and hands-on experiences through course projects.

**INFX 551 Distributed Database Management (3 credit hours).** This course covers advanced aspects of database management systems, including advanced normalization and de-normalization, query optimization, object-oriented and object-relational databases, data warehousing, data mining, distributed databases, XML, XSL, and databases for web applications.

**INFX 552 Data Mining and Business Intelligence (3 credit hours).** The course provides an introduction to concepts behind data mining, text mining, and web mining. Algorithms will be tested on data sets using the Weka Data mining software and Microsoft SQL Server 2014 (Business Intelligence Development Studio).

**INFX 553 Cloud Computing and Big Data Applications (3 credit hours).** This course provides an introduction to applied parallel computing using the MapReduce programming model facilitating large scale data management and processing. Emphasis on hands-on experience working with the Hadoop architecture, an open-source software framework written in Java for distributed storage and processing of very large data sets on computer clusters. Also includes the use of related big data technologies from the Hadoop tool environment, such as Hive, Impala, and Pig in developing analytics and solving problems faced by enterprises today.

**INFX 570 Web Application Development (3 credit hours).** This course focuses on building core competencies in web design and development. It begins with a complete immersion into HTML — essentially XHTML and Dynamic HTML (DHTML). Students are exposed to Cascading Style Sheets (CSS), as well as Dynamic CSS. The fundamentals of JavaScript language, including object-oriented JavaScript, are covered comprehensively. AJAX with XML and JSON are covered, as they are the primary means to transfer data from client and server. Topics also include comparison of e-commerce procedures, payment mechanisms, applications in different industry sectors, security, the challenges of starting and maintaining an electronic business site.

**INFX 575 Mobile/Pervasive Application Design and Development (3 credit hours).** The aim of this course is to provide students with the ability to design and implement novel interactions with mobile and pervasive technologies. The course will engage in discussions of interaction paradigms and explore different technologies related thereto. Students will design, build, implement, and refine mobile and pervasive computing applications for their domain of interest.

**INFX 581 Process Analysis, Modeling and Design (3 credit hours).** This course aims to identify, execute, measure, monitor, and control both automated and non-automated business processes to achieve consistent, targeted results aligned with an organization's strategic goals. The course focuses on use of information technology to manage, transform, and improve business processes. It examines the modeling of processes, relationships, and costs, as well as the re-engineering of processes to reduce waste, add value, shorten cycle times, decrease variability, and improve productivity. This course provides a detailed understanding of project management and presents concepts that promote efficient communication and coordination among various groups. Students will learn to construct a project plan and manage project costs, risk, and communication within the context of Project Portfolios.

**CAPSTONE**

**INFX 591 Informatics Capstone (3 credit hours).** This project-based course provides an overview of contemporary information technology (IT) management. It explains the relevant issues of effectively managing information services. The course highlights areas of greatest current and potential application of IT to business needs, and reviews electronic business, enterprise business systems, and decision support systems.
PROJECT OR THESIS
INFX 595 Master’s Project (3 credit hours).
INFX 598 Thesis Research and Thesis (3-6 credit hours).

2. Need
Outline how this program is deemed essential for the well-being of the state, region, or academy (e.g., how is it relevant, how does it contribute to economic development or relate to current/evolving needs).

UL Lafayette’s Master of Science in Informatics Program will address the current and expected demand for well-prepared computing and information technology professionals across the state, including the Acadia region. According to information provided by Louisiana Economic Development (LED), Louisiana’s traditional and emerging industries continue to grow at a healthy rate. These industries include the following:

- Aerospace
- Agribusiness
- Automotive
- Energy
- Entertainment & Game Design
- Manufacturing
- Process Industries
- Software Development
- Water Management

Businesses choose Louisiana because of competitive incentives, a skilled workforce, a business-friendly tax environment, and a unique quality of life. Such companies include, but are not limited to, the following: AAR, Alorama Corporation, Bell Helicopter, Benteler, Bercen, Inc., CenturyLink, CGI, Cheniere, ConAgra Foods, CSC, Dr. Reddy’s, Electronic Arts, Enquero, Gameloft, Gardner Denver, GE Capital, Halliburton, IBM, K&B Machine, Moonbot Studios, Nucor, Pericient, Pixel Magic, Sasol, Schumacher Group, SNF Flopam, Zagal, and Gulf Coast Spinning.

Several key technology companies recently located and/or established facilities in Louisiana:

- In March of 2013, IBM announced a major 800-job technology center in Baton Rouge, the purpose of which is to provide quantitative-intense business solutions to its domestic customers. The new IBM Technology Center opened in 2015 as part of a $55 million urban development.
- Also in March of 2013, CenturyLink broke ground on its 250,000-square-foot headquarters expansion, which it calls its “Technology Center of Excellence,” adding 800 jobs in Monroe and 1,170 new indirect jobs in the greater Monroe area. This Center opened in late 2014 and is fully operational.
- In April of 2014, CGI announced a 400-job technology center in Lafayette, the construction of which is currently in progress. Specifically, by way of its new 50,000-square-foot facility, CGI will deliver technology solutions as an anchor tenant of the University of Louisiana at Lafayette’s Research Park. The facility was completed in March 2016.
- In July of 2014, Enquero, a company that provides technology solutions for major domestic customers, announced a 350-job enterprise software center in Lafayette. Enquero’s offices are located in the LITE Center, Lafayette, Louisiana.
- In September of 2014, Pericient announced a 245-job software development center in Lafayette. Pericient currently operates in its downtown Lafayette office location.

In addition to the expected several thousand jobs created by these technology companies, so-called “non-technology” companies (e.g., Bell Helicopter, Benteler, ConAgra Foods, and others) require computer and information technology solutions, which are developed and deployed by Informatics professionals. Overall, the job outlook for computing and information technology occupations is expected to grow faster than average (i.e., between 8% - 37%, depending upon the specific occupation, between now and the year 2022), according to the U.S. Bureau of Labor Statistics (bls.gov). Moreover, among the various computing and information technology occupations that require a minimum of a Bachelor’s degree, the 2012 range of median pay spans between $62,500 and $93,350 per year.

It should be noted that, even with this new Master’s Program, the needs and requirements by the aforementioned companies for graduates of such a program will still be unmet. Nevertheless, the production of graduates from this Master’s Program will help greatly in meeting these needs.

The Acadia Region continues to experience an economic environment that is both vibrant and poised for continued growth. In fact, a 2013 report by Louisiana Economic Development (LED) includes the following statement:

“Area Development” magazine ranked Lafayette the No. 1 city in the U.S. for economic and job growth. According to FDI (Foreign Direct Investment) magazine’s 2013-14 American Cities of the Future, Lafayette ranked No. 7 overall among the Top 10 Small American Cities of the Future and No. 1 among small American cities in the category of FDI Strategy, a
A September 2014 report by the Lafayette Economic Development Authority (LEDA) identifies the following major industries in Lafayette Parish:

- Construction
- Retail Trade/Leisure & Hospitality/Entertainment
- Finance
- Manufacturing
- Medical/Health care
- Oil and Gas
- Information Technology
- Transportation/Distribution

The 21st century economy necessitates direct support of computing and IT needs, irrespective of the industry or market space within which an organization operates. Our proposed program would directly support the computing and information technology needs and requirements of these major industries in Lafayette Parish, as well as across the state. This is due in no small measure to the multidisciplinary and cross-functional nature of our proposed program.

Relevance of the MSI to the Board of Regents (BOR) Master Plan for Public Postsecondary Education in Louisiana: 2011 (Revised April, 2012)

Our program specifically addresses the following goals and objectives in the BOR 2011 Master Plan:

**Goal 1, Objective 1.7: “Develop a Skilled Workforce to Support an Expanding Economy.”**

Our Master's program will train a new generation of workers to support computing and IT management, as well as problem-solving in areas critical to the State of Louisiana. We specifically address this need in our curriculum through our business and internship modules. Contributing to the development of a qualified labor pool in the domain of informatics will facilitate business attraction and retention.

**Goal 2, Objective 2.1: “Maintain and Build Strength in Foundational Science and Technology Disciplines Identified in FIRST Louisiana.”**

Digital Media, Cyber Security, and Information Technology and Services are targeted by FIRST Louisiana and these are precisely the areas we support by way of our Master's program.

“Recruit, cultivate, and retain research talent in the foundational sciences.”

The addition of a Master’s program will allow us to greatly expand our research in Computational Science and Information Technology, which will attract quality research-active faculty and provide an incentive to retain them as members of the University community.

“Develop and maintain cutting-edge infrastructure and facilities for fundamental science and technology research.”

Although we already have and are building leading-edge laboratory facilities (e.g., a Virtual Desktop Infrastructure, or VDI), the Master’s program will provide new opportunities to advance infrastructure. We can leverage the Master’s program to secure new technologies through grants, and we can rely on the more highly-trained Master’s students to help operate and maintain hardware and software.

**Goal 2, Objective 2.2: “Promote Multidisciplinary and Multi-institutional Collaborative Research Efforts.”**

Informatics is by definition multidisciplinary. This is evidenced by the available course threads in areas such as Business, Media Technology, System Administration, and Web Development.

“Address multi-disciplinary and multi-institutional collaborations in campus research plans.”

Our multidisciplinary approach reflects the University of Louisiana at Lafayette’s strategic plan for advancing multidisciplinary research.

**Goal 2, Objective 2.3: “Sustain and Advance Research Commercialization and Translational Activities that Promote Economic Development in Louisiana.”**

We are embracing translational research as our primary focus, with the aim of bridging the gap between fundamental and applied research. This focus includes an emphasis on Economics and Management courses, as well as opportunities for internships. This approach is designed to enhance commercialization.

“Promote Multidisciplinary and Multi-Institutional Collaborative Research Efforts.”

See above
"Foster networking and strategic collaborations between higher education, government, and Louisiana's existing and prospective high-growth industry sectors."
Louisiana's High-growth industry sectors include Digital Media and Cyber Security. Our course threads directly support these two sectors. Hence, our Master’s framework and educational approach of embracing translational research will foster collaborations between higher education and industry and government partners.

"Build capacity in areas of competitive advantage and target niches which align with campus and State research priorities." As described above, our course threads are closely aligned with the research priorities of UL Lafayette and the State of Louisiana. By filling these niches, we add value to our program for our students, our community, and society.

In summary, our proposed Master’s program will uniquely benefit Louisiana because:

- Our focus areas are closely aligned with the strategic focus areas identified by the BOR in the FIRST Louisiana framework.
- We combine these interrelated focus areas into one unique Master’s program, as opposed to multiple programs administered by different colleges or administrative units.
- Our program is unique in its focus on providing educational and research activities at the Master’s level that bridge the gap between fundamental and application-based research. This problem-solving approach will result in more tech transfer, research commercialization, and business partnerships, providing a real return on investment for Louisiana.
- The Master’s program will greatly increase our ability to secure external research funding and provide more national and international recognition for the state of Louisiana.
- The Master’s program will build on our existing B.S. program in Informatics and generate a mutually beneficial interaction with this undergraduate program.
- Additional costs for program implementation are limited because we can rely heavily on existing faculty, staff, and research infrastructure.
- The Master’s program will increase the level of STEM degree attainment within the state by providing more upper-level educational opportunities in areas of high growth where more intellectual capacity is needed.

Describe how the program will further the mission of the Institution.

The University of Louisiana at Lafayette is the largest member of the University of Louisiana System. Our Master’s program aligns well with the University’s mission as articulated in its own Mission Statement, as part of its continuing excellence in graduate education, research, and public service. Moreover, our Master’s program will contribute to the University’s ongoing development of scholars who advance knowledge and improve the material conditions of society. The program also aligns with the University’s Statewide Mission as included in the Master Plan for Postsecondary Education in Louisiana: 2011, specifically with regard to serving “economic development interests and entrepreneurs throughout the state” (p. 70).

Our proposed Master’s program is an institutional priority at this time because the continuing integration of information technology infrastructures by small, medium, and large businesses must be supported by IT professionals who have currency in the field, as well as the intellectual agility to assimilate new technologies as they become available. This priority, in turn, directly supports the State of Louisiana’s economic prosperity through the development of a skilled, educated citizenry, and aligns with the Board of Regents’ Master Plan, which has established a goal of increasing the educational attainment of its adult citizens to the SREB average of 42% by 2025.

Identify similar programs in the state and explain why the proposed one is needed: present an argument for a new or additional program of this type and how it will be distinct from existing offerings.

According to information available from the Louisiana Board of Regents website, the following are Masters-level degree programs in the area of Computer and Information Sciences and Support Services:

<table>
<thead>
<tr>
<th>Institution</th>
<th>2018 Degree Code</th>
<th>Degree Level</th>
<th>Subject/Discipline</th>
<th>Average Completion (5 Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L.S.U. and A&amp;M College</td>
<td>510901</td>
<td>M.S.</td>
<td>COMPUTER SYSTEMS TECHNOLOGY</td>
<td>05/1990 13</td>
</tr>
<tr>
<td>L.S.U. and A&amp;M University</td>
<td>510901</td>
<td>M.S.</td>
<td>COMPUTER SCIENCE</td>
<td>03/1999 8</td>
</tr>
<tr>
<td>Louisiana Tech University</td>
<td>510701</td>
<td>M.S.</td>
<td>COMPUTER SCIENCE</td>
<td>05/1990 13</td>
</tr>
<tr>
<td>Southern University and A&amp;M College</td>
<td>110701</td>
<td>M.S.</td>
<td>COMPUTER SCIENCE</td>
<td>03/1992 10</td>
</tr>
<tr>
<td>Southeastern Louisiana University at New Iberia</td>
<td>110401</td>
<td>M.S.</td>
<td>COMPUTER INFORMATION SYSTEMS</td>
<td>08/2013 0</td>
</tr>
<tr>
<td>University of Louisiana at Lafayette</td>
<td>110701</td>
<td>M.S.</td>
<td>COMPUTER SCIENCE</td>
<td>01/1997 15</td>
</tr>
<tr>
<td>University of New Orleans</td>
<td>110701</td>
<td>M.S.</td>
<td>COMPUTER SCIENCE</td>
<td>05/1991 15</td>
</tr>
</tbody>
</table>

LA BoR – Program Proposal
These programs are aligned with particular computing areas, namely, computer science, information systems, computing technology, and systems science (engineering). In contrast to these existing programs, our graduates will be trained in the Information Technology aspect of enterprise computing, regardless of end-user/organization domain or area. Enterprise computing involves all the diverse computing solutions, such as database systems, network and Web infrastructures, application software, and business processes. The curriculum is sufficiently generalized to allow graduates to find employment both within and outside of Louisiana, primarily in IT companies. In Louisiana, examples of such companies include the recently opened CGI, Perficient, and Enquerio in Lafayette, GE Capital Technology Center, IBM Baton Rouge, and CenturyLink in Monroe, to name a few. As stated in Section 1, the initial area of focus of the program will be to use information in local and regional organizations to improve products and services. This goal will facilitate Lafayette’s transformation into a regional hub of information technology and service industries (e.g., CGI, Perficient, and Enquerio).

If approved, will the program result in the termination or phasing out of existing programs? (Is it a replacement?) Explain.

The Program will not result in the termination or phasing out of existing programs, nor is it a replacement for any existing programs.

If a Graduate program, cite any pertinent studies or national/state trends indicating need for more graduates in the field. Address possibilities for cooperative programs or collaboration with other institution(s).

Please refer to “Section 2. Need” above.

3. Students

Describe evidence of student interest. Project the source of students (e.g., from existing programs, or the prospects of students being recruited specifically for this program who might not otherwise be attracted to the institution).

A survey of senior undergraduate students majoring in Informatics was conducted in February of 2015. Of the 22 respondents, 20 (91%) indicated an interest in pursuing a Master of Science in Informatics at UL Lafayette. Additionally, graduates of both the Informatics Program and its predecessor, the former Management Information Systems Program (MIS), were surveyed by way of a private LinkedIn group, “Informatics Program (and former MIS Program) Alumni Group.” Twelve group members (alumni) indicated an interest in our proposed Master’s program. From these student polls, we may surmise that this group of 32 respondents would apply for acceptance into such a program, if it were in place today.

In addition to having a strong base of students in our existing undergraduate programs, we have developed a recruitment strategy to foster additional enrollment. Our recruitment strategy comprises three key components: (1) establishing pipelines through partnerships with other state, national, and international institutions; (2) implementing an aggressive traditional recruitment campaign; and (3) launching a non-traditional marketing campaign that utilizes social media.

Our non-traditional recruitment efforts will include utilization of various social media mechanisms including Facebook, Twitter, and LinkedIn. We will post information relative to the program to Institutional pages as well as those of professional associations, economic development agencies and industry partners. UL Lafayette now has over 52,000 “fans” alone. We also have the expertise at the University to plan and implement an innovative social media recruitment campaign.

Project enrollment and productivity for the first 5 years, and explain/justify the projections.

Assuming a conservative acceptance rate, then the table below reflects projected enrollments for the first five years of its existence.

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment</th>
<th>Degrees Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>28</td>
<td>14</td>
</tr>
</tbody>
</table>

For purposes of comparison and to provide context, projected enrollment and degrees awarded, as per existing UL Lafayette computer science and informatics programs, at both the Bachelor’s and Master’s levels for the period 2014-2024, are shown in the tables below.
Projected enrollment (2016-2024)  

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Semesters</th>
<th>CMP5 (Bachelors)</th>
<th>INFX (Bachelors)</th>
<th>CS (Masters)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2016</td>
<td>386</td>
<td>212</td>
<td>75</td>
<td>673</td>
</tr>
<tr>
<td>1</td>
<td>2017</td>
<td>391</td>
<td>242</td>
<td>84</td>
<td>717</td>
</tr>
<tr>
<td>2</td>
<td>2018</td>
<td>396</td>
<td>272</td>
<td>93</td>
<td>761</td>
</tr>
<tr>
<td>3</td>
<td>2019</td>
<td>401</td>
<td>302</td>
<td>102</td>
<td>805</td>
</tr>
<tr>
<td>4</td>
<td>2020</td>
<td>405</td>
<td>332</td>
<td>111</td>
<td>849</td>
</tr>
<tr>
<td>5</td>
<td>2021</td>
<td>411</td>
<td>362</td>
<td>120</td>
<td>893</td>
</tr>
<tr>
<td>6</td>
<td>2022</td>
<td>416</td>
<td>392</td>
<td>129</td>
<td>937</td>
</tr>
<tr>
<td>7</td>
<td>2023</td>
<td>421</td>
<td>422</td>
<td>131</td>
<td>974</td>
</tr>
<tr>
<td>8</td>
<td>2024</td>
<td>427</td>
<td>427</td>
<td>136</td>
<td>950</td>
</tr>
</tbody>
</table>

Projected degrees awarded (2016-2024)  

<table>
<thead>
<tr>
<th>Year</th>
<th>Academic Year</th>
<th>CMP5 (Bachelors)</th>
<th>INFX (Bachelors)</th>
<th>CS (Masters)</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15/16</td>
<td>38</td>
<td>26</td>
<td>54</td>
<td>123</td>
</tr>
<tr>
<td>1</td>
<td>16/17</td>
<td>31</td>
<td>28</td>
<td>58</td>
<td>136</td>
</tr>
<tr>
<td>2</td>
<td>17/18</td>
<td>34</td>
<td>34</td>
<td>62</td>
<td>149</td>
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<tr>
<td>3</td>
<td>18/19</td>
<td>37</td>
<td>37</td>
<td>66</td>
<td>162</td>
</tr>
<tr>
<td>4</td>
<td>19/20</td>
<td>40</td>
<td>37</td>
<td>64</td>
<td>174</td>
</tr>
<tr>
<td>5</td>
<td>20/21</td>
<td>43</td>
<td>43</td>
<td>74</td>
<td>187</td>
</tr>
<tr>
<td>6</td>
<td>21/22</td>
<td>46</td>
<td>46</td>
<td>78</td>
<td>200</td>
</tr>
<tr>
<td>7</td>
<td>22/23</td>
<td>49</td>
<td>49</td>
<td>80</td>
<td>210</td>
</tr>
<tr>
<td>8</td>
<td>23/24</td>
<td>54</td>
<td>54</td>
<td>84</td>
<td>222</td>
</tr>
</tbody>
</table>

Provide enrollment/completer data for closely related programs currently offered at the Institution.

Enrollment/completer data for Masters in Computer Science, School of Computing and Informatics, are as follows:

**Fall Enrollments**
- 2011 - 81 students
- 2012 - 53 students
- 2013 - 64 students
- 2014 - 103 students
- 2015 - 66 students

**Completers (academic year)**
- 2008-09 - 48 graduates
- 2009-10 - 76 graduates
- 2010-11 - 49 graduates
- 2011-12 - 50 graduates
- 2012-13 - 40 graduates
- 2013-14 - 30 graduates
- 2014-15 - 51 graduates

What preparation will be necessary for students to enter the program?

Students entering the program should have completed successfully at least one course in fundamental calculus and one course in statistics.

An undergraduate cumulative GPA of at least 2.75 or a 3.0 GPA in the last 60 hours, satisfactory GRE scores (as defined by the Graduate School), and three supportive letters of recommendation are among the criteria used for admissions evaluation. Moreover, in accordance with Graduate School requirements, the following English language proficiency expectations apply:

**UL Lafayette Graduate School has set the following preferred expectations for English Language Proficiency Exams.**

TOEFL or IELTS scores are only one factor of several considered when determining admission.

**NOTES:**
1) UL Lafayette Graduate School uses a portfolio approach in all admission decisions;
2) Some graduate programs expect slightly higher than the general scores stated below;
3) Conditional admission may be considered for application portfolios with TOEFL or IELTS scores below the stated preferred expectations.

**TOEFL**
- Internet-based Test: 81
- Computer-based Test: 213
- Paper-based Test: 550

**IELTS**
- Preferred score expectation: 6.5

If a Graduate program, indicate & discuss sources of financial support for students in the program.

In addition to the four graduate assistantships requested from UL Lafayette, many students will be funded by external research funds and by industry partners, as a business recruiting tool for graduates (e.g., internships). We point out the several companies have already pledged 19-22 student internships annually. Additionally, industry partners may fund scholarships, the criteria of which shall be developed by way of coordination with the sponsor and UL Lafayette Scholarships Office.
4. Faculty

List present faculty members who will be most directly involved in the proposed program: name, present rank; degrees; courses taught; other assignments.

**Primary Faculty with appropriate Graduate Faculty Membership**
- Michael Totaro, Ph.D., Associate Professor, Informatics
- Sonya Hsu, Ph.D., Associate Professor, Informatics
- Mehmet Tozal, Ph.D., Assistant Professor, Informatics
- Ashok Kumar, Ph.D., Associate Professor, Computer Science
- Henry Chu, Ph.D., Professor, School of Computing and Informatics
- Subrata Dasgupta, Ph.D., Professor, School of Computing and Informatics
- Arun Lakhotia, Ph.D., Professor, Center for Advanced Computer Studies
- Christoph Borst, Ph.D., Associate Professor, Center for Advanced Computer Studies

**Supporting Faculty with appropriate Graduate Faculty Membership**
- Magdy Bayoumi, Ph.D., Professor, Center for Advanced Computer Studies
- Dmitri Perkins, Ph.D., Professor, Center for Advanced Computer Studies
- Vijay Raghavan, Ph.D., Professor, Center for Advanced Computer Studies
- Nian-Feng Tzeng, Ph.D., Professor, Center for Advanced Computer Studies
- Hongyi Wu, Ph.D., Professor, Center for Advanced Computer Studies
- Mia Jin, Ph.D., Associate Professor, Center for Advanced Computer Studies
- Tony Malda, Ph.D., Associate Professor, Center for Advanced Computer Studies
- Danella Zhao, Ph.D., Associate Professor, Center for Advanced Computer Studies

**Faculty Teaching Assignments**

Numbering of the INFX courses is structured such that the first digit of the course number represents the level of the course, and the second digit of the course number represents a knowledge area within Informatics, as follows:

<table>
<thead>
<tr>
<th>Course Number Code</th>
<th>Knowledge Area</th>
<th>At least one of the following faculty members may teach courses in this knowledge area</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;0&quot;</td>
<td>Of general interest to all areas</td>
<td>All faculty</td>
</tr>
<tr>
<td>&quot;1&quot;</td>
<td>Human computer interaction</td>
<td>Borst, Hsu, Malda</td>
</tr>
<tr>
<td>&quot;2&quot;</td>
<td>Information assurance and security</td>
<td>Lakhotia, Tozal</td>
</tr>
<tr>
<td>&quot;3&quot;</td>
<td>Information management</td>
<td>Chu, Jin, Totaro, Raghavan</td>
</tr>
<tr>
<td>&quot;4&quot;</td>
<td>Information technology infrastructure</td>
<td>Chu, Kumar, Perkins, Totaro, Tzeng, Wu</td>
</tr>
<tr>
<td>&quot;5&quot;</td>
<td>System administration and maintenance</td>
<td>Kumar, Totaro, Tozal</td>
</tr>
<tr>
<td>&quot;6&quot;</td>
<td>Entertainment, multimedia</td>
<td>Borst, Chu, Kumar</td>
</tr>
<tr>
<td>&quot;7&quot;</td>
<td>Web systems and technologies</td>
<td>Raghavan, Totaro, Tozal</td>
</tr>
<tr>
<td>&quot;8&quot;</td>
<td>Systems integration and architecture</td>
<td>Hsu, Totaro, Tzeng, Zhao</td>
</tr>
<tr>
<td>&quot;9&quot;</td>
<td>Special courses</td>
<td>All faculty</td>
</tr>
</tbody>
</table>

Project the number of new faculty members needed to initiate the program for each of the first five years. If it will be absorbed in whole or part by current faculty, explain how this will be done. Explain any special needs.

The program will be absorbed by current faculty (see previous question). Some of the current faculty members teach lower level courses. In cases when such graduate faculty members are assigned to teach a graduate course in Informatics, instructors shall be assigned to replace those graduate faculty members reassigned to graduate classes, such that the instructors will teach lower level courses.

Describe involvement of faculty – present and projected – in research, extension, and other activities and the relationship of these activities to teaching load. For proposed new faculty, describe qualifications and/or strengths needed.

The School of Computing and Informatics already has in place a highly-structured framework for the management of teaching loads, based on research, extension, and other activities. All new faculty members who teach at the graduate level are required to hold a terminal degree, and must demonstrate success in research, teaching, and service, as part of their annual performance evaluation and membership on the Graduate Faculty.
5. Library and Other Special Resources
Are present library holdings in related fields adequate to initiate the program? To meet program needs in the first 5 years, what will be needed? Do other institutions have library resources available to faculty & students for the proposed program?

Present library holdings in the related fields of Computer Science, Computer Engineering, and Information Systems/Technology are adequate to initiate the Master of Science in Informatics. The Library supports instruction and research with collections in a variety of formats. The Library provides electronic access to materials through the library's website.

Other institutions' resources are available to faculty and students for the Master of Science in Informatics through Interlibrary Loan and LOUIS (The Louisiana Library Network). The Library participates in formal arrangements in order to supplement the collections owned by the Library. This includes participation in LOUIS: The Louisiana Library Network, a consortium that allows Louisiana academic libraries to share library resources, collaboratively purchase resources, and extend borrowing privileges across the state. Through the library's membership in LOUIS, students and faculty may obtain a LOUIS card and directly borrow materials from all of the colleges and universities throughout the state of Louisiana.

Indicate/estimate total expenditure for the last two fiscal years in library acquisitions for fields or departments offering or related to the proposed program.

<table>
<thead>
<tr>
<th>Total Library Expenditures for 2014/2015 and 2015/2016 are as follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print and Electronic Serials Subscriptions:</td>
</tr>
<tr>
<td>$21,068.45</td>
</tr>
<tr>
<td>Online Research Databases (includes LOUIS Consortium Membership):</td>
</tr>
<tr>
<td>$1,041,631.42</td>
</tr>
<tr>
<td>Print and Electronic Books:</td>
</tr>
<tr>
<td>$51,772.54</td>
</tr>
</tbody>
</table>

Project library expenditures needed for the first 5 years of the program.

The Master of Science in Informatics shall leverage library expenditures, as they support other Graduate programs within the School. As such, no additional library expenditures are anticipated.

What additional special resources, other than library holdings, will be needed?

There are no anticipated additional special resources needed, other than library holdings.

6. Facilities and Equipment
Describe existing facilities (classrooms, labs, offices, etc.) available for the program. Describe present utilization of these facilities that are assigned to the sponsoring department.

The School of Computing and Informatics operates a large variety of computer equipment for use by its faculty, staff and students. An extensive high-speed network connects computers and peripherals in the department to the campus data network and it is a fully managed trunked-VLAN network, with a 1Gbps core and 100Mbps to workstations, utilizing both fiber-optic and copper lines. This network is battery-backed in case of power failure. There are approximately 325 workstations in total, with roughly half running Windows and the other half running UNIX, and around seventy servers, of which about 85% run UNIX and the rest Windows. It also provides email and web-space for its students.

Labs:
We do not require any additional laboratory space for this program.

Other Physical Facility Needs:
None. We already have space in James R. Oliver Hall (the building that will house this new program) to assign offices to the Graduate Teaching Assistants.

Describe the need for new facilities (e.g., special buildings, labs, remodeling, construction, equipment), and estimate the cost, proposed sources of funding, and estimated availability for program delivery.

No new facilities are anticipated, as the Master of Science in Informatics Program will leverage such resources, as they already exist to support existing Masters and Ph.D. Programs in the School of Computing and Informatics.

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7. Administration

In what department, division, school, college, or center/institute will the proposed program be administered? How will the new program affect the present administrative structure of the institution?

The Master of Science in Informatics shall be administered by the Informatics Program, which is a unit within the School of Computing and Informatics, in the Ray P. Authement College of Sciences. The new program will have no impact on the present administrative structure of the institution.

Describe departmental strengths and/or weaknesses and how the proposed program will affect them.

The Master of Science in Informatics shall leverage the highly viable infrastructure already in place within the School of Computing and Informatics. The School of Computing and Informatics currently offers six degree programs among three academic units: the Center for Advanced Computer Studies, the Computer Science program, and the Informatics program. The School has 30 faculty members with teaching and research expertise in all major branches of computer science, computer engineering, and informatics.

Students can choose from a diverse set of courses every semester and have access to state-of-the-art facilities in James R. Oliver Hall, the newest academic building on UL Lafayette’s campus. Additionally, the School has strong relationships with local and national technology companies that actively seek our graduates for internships and careers.

The mission of the Center for Advanced Computer Studies (CACS) at The University of Louisiana at Lafayette is to provide high-quality, cutting-edge educational experiences to computing majors at the Master’s and Ph.D. levels. The Center aims to provide students with strong conceptual foundations (theoretical and experimental), and also expose them to the forefront of the developments in the field of computing. Recognizing the applicability of computing to all fields of knowledge and practice, the Center will provide a variety of degrees and programs at each of the degree levels, and will cooperate with other units of the University to provide interdisciplinary degree programs. CACS is the research arm of the School of Computing and Informatics that supports graduate education at the Master’s and doctoral levels. CACS is responsible for conducting world-class research supported by outside grants. Our students, particularly at the doctoral level, are engaged in all stages of research. CACS offers graduate level courses in computation, computer architecture, algorithms, cybersecurity, and more.

The Computer Science Program offers the B.S. degree in computer science, with concentrations in cognitive science, computer engineering, information technology, scientific computing, and video game design and development.

The Informatics Program offers the B.S. degree in informatics, with concentrations in business informatics, health informatics, media technology, systems administration, and web development. The Program also offers an individualized concentration, which is intended to support the education of Informatics students whose professional and personal interests extend beyond what is offered by way of the other concentrations.

The table below shows enrollment and completer data for UL Lafayette’s B.S. in Informatics and B.S. in Computer Science.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>B. S. in Informatics</th>
<th>B. S. in Computer Science</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enrollment</td>
<td>Degrees Awarded (Fall-Spring-Summer)</td>
</tr>
<tr>
<td></td>
<td>Fall</td>
<td>Spring</td>
</tr>
<tr>
<td>2011-2012</td>
<td>43</td>
<td>74</td>
</tr>
<tr>
<td>2012-2013</td>
<td>108</td>
<td>114</td>
</tr>
<tr>
<td>2013-2014</td>
<td>151</td>
<td>158</td>
</tr>
<tr>
<td>2014-2015</td>
<td>158</td>
<td>150</td>
</tr>
<tr>
<td>2015-2016</td>
<td>182</td>
<td>185</td>
</tr>
</tbody>
</table>

*The B. S. in Informatics Program was initiated in the Fall 2011 semester.

**Degrees Awarded indicated are for Academic Year (Fall-Spring-Summer).

The School of Computing and Informatics partners with the following companies:

Acadian Companies
Acadiana Computer Systems
Apex Innovations
CBM Technology
CenturyLink
CGI
Enquero
GE Capital
HealthUnity
Innovative Advertising
Lafayette Advocates of Innovation and Design
LHC Group

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8. Accreditation
Describe plan for achieving program accreditation, including: name of accrediting agency, basic requirements for accreditation, how the criteria will be achieved, and projected accreditation date.

There currently is no existing program accreditation body for the informatics discipline.

If a graduate program, describe the use of consultants in developing the proposal, and include a copy of the consultant’s report as an appendix.

Consultants were not used for the development of this proposal.

9. Related Fields
Indicate subject matter fields at the institution which are related to, or will support, the proposed program; describe the relationship.

Related subject matter fields include the following: Computer Science, and Computer Engineering. The School of Computing and Informatics currently offers M.S. and Ph.D. degrees in both areas.

10. Cost & Revenue
Summarize additional costs to offer the program, e.g., additional funds for research needed to support the program; additional faculty, administrative support, and/or travel; student support. How will the program affect the allocation of departmental funds?

Our proposed program can be fully implemented with little new costs to UL Lafayette. This includes no new additional funds required for supplies, operating expenses, or travel. Costs incurred by graduate assistantships represent a minimal but necessary investment and will be matched by industry-supported internships, and offset by tuition revenue.

One adjunct shall be hired in Year 3 (see separate budget form) at a cost of $22,000, and shall continue into Year 4, along with a second adjunct hire, for a total Year 4 cost of $44,000.

In preparation for the new program, a number of initiatives will be implemented as needed to assure long-term support of the program:

1. Two full-time instructors previously assigned to the UNIV 200 computer literacy course (no longer required by most programs) will be assigned to the basic introductory Informatics courses, thus freeing terminally-qualified faculty to focus on upper-level and graduate courses;
2. Courses assigned will be re-arranged so that qualified faculty will support teaching courses in the MSI program; and
3. Academically-qualified adjunct faculty working for federal agency partners will be tasked as necessary to teach appropriate courses.

Finally, Master’s students will have full access both to the UL Lafayette and the LSU libraries, as well as resources provided through the LOUIS consortium, so no additional library costs are anticipated.

GA (number, funding source, Full or Tuition waiver only):
The University will provide support for two 2-year (continuing) graduate teaching or research assistantships for the first year of
the program, followed by two additional 2-year assistantships for the second year, as the program demonstrates its viability. This includes a stipend, as well as a tuition waiver. Graduate assistantships serve an important role in recruiting and retaining highly-qualified students. Graduate assistantships also help to offset faculty workloads, which are expected to increase with the inception of a graduate program. To compensate for this investment by the University, significant funds for graduate student support will come from the private sector, in the form of four internships subsidized by local companies. Students funded by industry funds will pay regular (in-state or out-of-state, as appropriate) tuition, which will bring revenue to the University.

*On the separate budget form, estimate new costs and revenues for the projected program for the first four years, indicating need for additional appropriations or investment by the institution.

Outside of revenue from tuition & fees, explain and justify any additional anticipated sources of funds, e.g., grants (in hand, promised, or in competition), institutional funds, etc.

Research by Dr. Mehmet Tozal, an Assistant Professor with the School of Computing and Informatics, involves analyzing, modeling and sampling real world complex systems including network topologies, social networks and information networks. Dr. Tozal serves as the director of the Network Science Research Group at the University of Louisiana at Lafayette. Dr. Tozal received two grants from the National Science Foundation Center for Visual and Decision Informatics (CVDI) and the State of Louisiana Board of Regents in the past two years. (Please see below for grant details.) Additionally, Dr. Tozal has two pending grant proposals submitted to the NSF Center for Visual and Decision Informatics (CVDI).

Grant Details:
CVDIY4, $78,556 & NSF Center for Visual and Decision Informatics Graph Sampling Summarization and Touch-Based Visual Analytics for Large Complex Systems
LEQSF-ENH-TR-31, $80,679 & Louisiana Board of Regents, ENH & Interactive Visualization and Analysis of Big Data for Research and Education

Additionally, Dr. Michael Totaro (Systems and Infrastructures Administration and Optimization) and Dr. Sonya Hsu (Enterprise Resource Planning and Health Informatics) anticipate submitting several grant proposals to Board of Regents and/or National Science Foundation in 2016.

Faculty will continue to pursue research funding pertinent to the mission of the unit. Moreover, graduate students in the Master of Science in Informatics Program would be enriched by having opportunities to participate in these research projects.

CERTIFICATIONS:

Azmy Ackleh
Primary Administrator for Proposed Program Date: 5/5/16
Dr. Azmy Ackleh, Dean of the Ray P. Authement College of Sciences

Fabrice Leroy
Provost/Chief Academic Officer Date: 5/5/16
Dr. Fabrice Leroy, Assistant Vice President for Academic Affairs/Academic Programs

Management Board/System Office Date
### SUMMARY OF ESTIMATED ADDITIONAL COSTS/INCOME FOR PROPOSED PROGRAM

Institution: University of Louisiana at Lafayette  
Degree Program, Unit: Master of Science in Informatics, Ray P. Authement College of Sciences  
Date: May 3, 2016  
FTE = Full Time Equivalent (use the institution’s standard definition and provide that definition).

#### EXPENDITURES

<table>
<thead>
<tr>
<th>INDICATE ACADEMIC YEAR:</th>
<th>FIRST</th>
<th>SECOND</th>
<th>THIRD</th>
<th>FOURTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AMOUNT</td>
<td>FTE</td>
<td>AMOUNT</td>
<td>FTE</td>
</tr>
<tr>
<td>Faculty</td>
<td>$</td>
<td>$</td>
<td>$2,200</td>
<td>20%</td>
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<tr>
<td>Graduate Assistants</td>
<td>$36,420</td>
<td></td>
<td>$72,840</td>
<td></td>
</tr>
<tr>
<td>Support Personnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fellowships and Scholarships</td>
<td>$36,420</td>
<td></td>
<td>$72,840</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>AMOUNT</th>
<th>AMOUNT</th>
<th>AMOUNT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUB-TOTAL</strong></td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td><strong>TOTAL EXPENSES</strong></td>
<td>$36,420</td>
<td>$72,840</td>
<td>$75,040</td>
<td>$77,240</td>
</tr>
</tbody>
</table>

#### REVENUES

<table>
<thead>
<tr>
<th>Revenue Anticipated From:</th>
<th>AMOUNT</th>
<th>AMOUNT</th>
<th>AMOUNT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>*State Appropriations</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
</tr>
<tr>
<td>*Federal Grants/Contracts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*State Grants/Contracts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Private Grants/Contracts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Expected Enrollment</strong></td>
<td>10</td>
<td>13</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td>Tuition</td>
<td>$36,373</td>
<td>$54,558</td>
<td>$78,806</td>
<td>$109,116</td>
</tr>
<tr>
<td>Fees</td>
<td>$18,258</td>
<td>$27,387</td>
<td>$39,559</td>
<td>$54,774</td>
</tr>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td>$54,631</td>
<td>$81,945</td>
<td>$118,365</td>
<td>$163,890</td>
</tr>
</tbody>
</table>

* Describe/explain expected sources of funds in proposal text.
Item G.8. University of New Orleans' request for approval to enter into an Urban Studies and Planning Pathway Agreement between Delgado Community College and the University.

EXECUTIVE SUMMARY

The University of New Orleans (UNO) requests approval of an Urban Studies and Planning Pathway Agreement with Delgado Community College (DCC). The purpose of the proposed agreement is to establish a transferable pathway for DCC students to become eligible for direct admission into UNO's Bachelor of Science in Urban Studies and Planning (BSUSP). This pathway will provide students with a transparent and systematic outline for successfully completing a baccalaureate degree from UNO in Urban Studies and Planning and a Logistics Certificate from DCC.

Delgado students who have completed the Logistics Certification will be admitted into the Urban Studies and Planning program at UNO provided they meet all requirements as outlined in the proposed agreement. The total number of credit hours required to complete the BSUSP at UNO is 120 hours. Students may transfer all 18 Logistics course hours (up to 60 credits from an associate degree) earned from DCC to UNO.

The Urban Studies and Planning Pathway between UNO and DCC will help to ensure both institutions are being proactive in addressing challenges in the economy and resulting changes in the higher education landscape. In addition, the partnership ensures the participating institutions are responsive to relevant workforce needs of the local, state, and regional industry partners. DCC and UNO will review and approve together all student recruitment materials and events pertaining to the Urban Studies and Planning Pathway as defined in the agreement. DCC and UNO will also participate in joint recruitment activities that include but are not limited to high school visits and presentations, community outreach events, and on-campus orientations.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves University of New Orleans' request to enter into an Urban Studies and Planning Pathway Agreement between Delgado Community College and the University.
March 30, 2017

James B. Henderson
President
University of Louisiana System
1201 North Third Street
Baton Rouge, LA 70802

Re: Urban Studies and Planning Pathway Agreement between Delgado Community College and UNO

Dear Dr. Henderson,

I am requesting approval of an Urban Studies and Planning Pathway Agreement between Delgado Community College and the University of New Orleans to establish a transferable pathway for DCC students to become eligible for direct admission into the Urban Studies and Planning program at UNO.

Thank you for your consideration.

Sincerely,

[Signature]

John W. Nicklow
President
Pathway to Bachelor of Science in Urban Studies and Planning

Between
Logistics Certification - Bachelor of Science in Urban Studies & Planning
The University of New Orleans
and
Delgado Community College
2017-2018
Purpose
The Bachelor of Science in Urban Studies and Planning (BSUSP) of the University of New Orleans (UNO) and Delgado Community College (DCC) have entered into this agreement establishing a transferable pathway for Delgado students to become eligible for direct admission into Urban Studies and Planning at UNO. This pathway provides students a transparent and systematic outline for successfully completing a baccalaureate degree from UNO in Urban Studies and Planning and a Logistics Certificate from DCC. The institutions will partner to facilitate student access through a seamless and concurrent blend of curricula.

Program
Delgado Community College students who have completed the Logistics Certification will be admitted into the Bachelor of Urban Studies and Planning at the University of New Orleans provided they meet the requirements as outlined in this agreement.

The total number of credit hours required to complete a bachelor’s degree in Urban Studies and Planning at UNO is 120 hours. Students may transfer all 18 Logistics course hours (or up to 60 credits from an Associates Degree) from DCC before transferring to UNO. DCC students who successfully transfer to UNO will earn a Bachelor's degree in Urban Studies and Planning from the University of New Orleans after successfully completing the additional required credit hours (102 or 60 hours respectively) at UNO and meeting all UNO degree requirements.

DCC students will follow the requirements in the UNO Undergraduate/Graduate Catalog in force at the time they enter DCC provided it is not older than Academic Year 2016-2017 and provided there was no break in enrollment for one regular semester (fall or spring) at DCC, not including summer sessions.

In order to graduate from UNO, students must achieve a quality point ratio of 2.0 or better in all work attempted, all work taken at UNO, and all courses in the major.

Enrollment Management
Some courses in this program may require prerequisites. See DCC and UNO Catalogs for specific requirements.

DCC and UNO mutually agree to review and approve together all student recruitment materials and events pertaining to the Urban Studies and Planning Pathway as defined in this agreement. DCC and UNO will participate in joint recruitment activities that include but are not limited to high school visits and presentations, community outreach events, and on-campus orientations.

Workforce Development
The Urban Studies and Planning Pathway between UNO and DCC helps to ensure both institutions are being proactive in addressing challenges in the economy and resulting changes in the higher education landscape. In addition, the partnership ensures the participating institutions are responsive to relevant workforce needs of our local, state, and regional industry partners. As a result, DCC and UNO mutually agree to include a representative from both institutions for program advisory meetings, industry partnerships meetings, economic development meetings, and chamber meetings when relevant to the Urban Studies and Planning Pathway.
Example DCC and BSUSP Degree map including DCC and UNO course work.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>Credit Hours</th>
<th>Course Name/#</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1157</td>
<td>3</td>
<td>Lit</td>
<td>6</td>
</tr>
<tr>
<td>ENGL 1158 or 1159(^1)</td>
<td>3</td>
<td>HIST/PHIL elective</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1115, 1031, 1125 or higher</td>
<td>3</td>
<td>Arts Elective</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1116, 1032, 1126 or higher</td>
<td>3</td>
<td>Social Science Electives</td>
<td>6</td>
</tr>
<tr>
<td>BIOS(^4)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOS or Physical Science(^6)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Requirements</th>
<th>Credit Hours</th>
<th>Course Name/#</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2152 or URBN 4670(^8)</td>
<td>3</td>
<td>Social Sciences (above)</td>
<td>12</td>
</tr>
<tr>
<td>Statistics(^4)</td>
<td>3</td>
<td>URBN/MURP</td>
<td>3</td>
</tr>
<tr>
<td>Humanities Elective</td>
<td>3</td>
<td>Deldago Logistics Certification</td>
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<th>Major Requirements</th>
<th>Credit Hours</th>
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<td>MURP 4200</td>
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Total Credit Hours Required: **120**

\(^1\) A grade of C or better
\(^2\) 6 hours from the fields, select from: ANTH, ECON, GEOG, POLI, PSYC, SOC or URBN. Check General Education Courses to confirm what courses fulfill this requirement.
\(^3\) 3 hours BIOS required
\(^4\) An additional 3 hours of BIOS and 3 hours of Physical Science, or a 6-hour sequence the same Physical Science.
\(^5\) Students who take URBN 4670 can count these hours toward the Major Requirements.
\(^6\) SOC 2707 recommended: POLI 2900 or MATH 2314 are acceptable.
\(^7\) Choose 8 courses from URBN 2100, 2109 and any 3000-level or above from URBN, MURP, PADM, GEOG and related courses.
\(^8\) Students may select a 12-hour concentration in Urban Planning or Transportation. Check with the program to see which courses are appropriate for each concentration.
\(^9\) A minimum of 50% of the courses included in the Major requirements must be at the 3000+ level. A minimum of 50% of the credit hours used to satisfy the Major requirements must be taken at The University of New Orleans. The maximum number of hours transferable from a community or junior college for degree credit is 66. No credit earned at a community or junior college may be used for credit at the 3000 or 4000 course level.
Potential DCC Logistics - BSUSP Completer Coursework (alpha order non-restrictive)

MANG 206  Introduction to Logistics  3 cr.
Introduction to business logistics as a functional area within business. Survey of customer service, order processing, information flow, transportation, warehousing, purchasing, inventory, and system design and organization. Prerequisite(s): Completion of Developmental Reading requirements.

MANG 208  Transportation Management  3 cr.
Analysis of current methods of transportation used to deliver goods. Includes exploration of infrastructure of each form of transportation, how it developed into what it is today, and where the field is going in the future. Also includes how government directs transportation in the area of safety, economic needs, and national policy.

MANG 220  Introduction to Operations Management  3 cr.
Concepts and purpose of logistics support analysis with the theory and application to identify and solve integrated logistics and support issues.

MANG 229  Supply Chain Management  3 cr.
Introductory course designed to provide an understanding of supply chain management and dynamics. Methods used to analyze, plan and manage supply chain operations.

MANG 230  Warehouse and Inventory Management  3 cr.
Introduction to the efficient and effective operation of the warehouse and its importance to an organization's supply chain.

MANG 265  Production Planning and Cost Analysis  3 cr.
Theories of production planning and their application to determine the quantity of product to manufacture over a period of time in order to minimize cost. Includes concepts and skills necessary to conduct a basic cost analysis. Prerequisite(s): MANG 215, 220, 229, and MATH 120 or a higher level Mathematics course.

GEOG 4310  Political Geography  3 cr.
Examination of the spatial structure of the state spatial interactions among states, geopolitical theories, law of the sea, electoral patterns within the United States, and urban political geography.

GEOG 4805  Fundamentals of Mapping and GIS  3 cr.
Prerequisite: Math 1115 or higher. Lecture and project-based introduction to the basic concepts and technologies important to mapping, geographic information systems (GIS), and image analysis. Topics include map design fundamentals, thematic mapping, statistical cartography, the relationship of mapping to GIS, essential elements of GIS, data acquisition and analysis, visualization of output, remotely sensed imagery and GIS, GIS functions and associated applications, and spatial decision support systems. This course will meet the needs not only of students who intend to do additional work in geographic techniques, but those who need only a one-semester survey of concepts.
GEOG 4810  Introduction to Remote Sensing  3 cr.
A comprehensive introductory course that deals with fundamental physical principles of the science of remote sensing, the theory and practice of image interpretation, and information extraction techniques for aerial photos and satellite imagery. Includes remote sensing applications pertaining to management of natural resources and contemporary environmental issues. Practical exercises expose students to image processing and interpretation techniques.

GEOG 4820  Remote Sensing II: Digital Image Processing and Analysis  3 cr.
Prerequisite: GEOG 4810 or consent of department. This course examines the quantitative, computational, and applied aspects of remotely sensed data, with the goal of providing students with an in-depth understanding of image processing analysis, and interpretation techniques. Topics include scientific visualization, geometric, radiometric, and atmospheric correction: image enhancement and manipulation, information extraction, land-use and land-cover change detection, integration of GIS and remote sensing data and spatial modeling. Class applications will address issues related to environmental analysis, land and water resource inventory and use, and urban analysis. Practical exercises expose students to image processing and information extraction techniques.

GEOG 4830  GIS Theories and Concepts  3 cr.
Prerequisite: 4805 or consent of department. Detailed lecture and lab-based examination of theories and concepts important to geographic information systems (GIS). Topics include GIS as a communication system, data acquisition and management, error management, GIS functions, GIS-based spatial analysis, GIS and regional scale visualization concepts, the role of GIS in spatial decision support.

GEOG 4832  Advanced Techniques In GIS  3 cr.
Prerequisites: GEOG 4805 and GEOG 4830, or consent of department. This course introduces ArcObjects, the technology framework of ArcGIS, to advanced GIS users. This technology allows users to customize and extend the capabilities of ArcGIS. The class material covers customization of GIS applications and user-interface, program coding of GIS functions and tools, and script writing to automate GIS processes.

HIST 4543  United States Urban History  3 cr.
Departmental consent required. Urban development in the United States from the colonial town to the twentieth century megalopolis.

MURP 4140  Environmental Planning  3 cr.
This course focuses on the impact of public and private planning, policies, and programs on the natural and man-made environment of our urban regions. The subject matter includes environmental law, environmental impact statements, environmental politics, land use policy, air and water resources, energy policy, and solid wastes.

MURP 4145  Coastal Zone Planning and Administration  3 cr.
Coastal zones are valuable natural resource areas that are fragile, in great demand, and in danger of system collapse. This course develops the concepts of coastal resources, examines the many strategies for resource management and administration, and analyzes guidelines and standards for planning activities in the coastal zone.
URBN 1000  Introduction to Cities  
This course is an introduction to contemporary cities. It examines the social, technological, political, aesthetic, economic and environmental forces that have shaped urban environments. It also discusses how different spatial forms and functions reflect these forces.

URBN 2000  The New Orleans Region  
This course introduces the social, cultural, economic, and political trends that shaped the New Orleans region.

URBN 2100  Globalization and Mobility  
The purpose of this course is to explore the influence of the movement of people and freight on globalization in local, regional, and state economic development in the United States. Mobility and economic development in developing countries will also be considered. Part of the course will examine globalization and part will examine economic development strategies that communities can take to address the mobility challenges and opportunities created by globalization. Export promotion, attracting foreign direct investment, outsourcing, and immigration are some of the topics covered.

URBN 2999  Public Service  
Department consent required. Participation in an on-going public service project as an unpaid volunteer to learn about service work. Participants are expected to contribute an average of three hours per week at times mutually agreeable to the individual and the organization. Membership in the UNO Honors Program required. Offered each semester.

URBN 3002  Introduction to Urban Studies  
A multidisciplinary introduction to urban studies which examines classic arguments and recent discourses on the urban processes and urban life. North American cities will be examined through social sciences, environmental studies, architecture and design, public policy and urban planning.

URBN 3150  The Suburbs and Car Culture  
This course examines suburbanization as part of the economic and social process of urbanization and as a defining part of the American cultural landscape. It explores the many influential forces that shaped the suburbs, including car use as a fundamental dimension of suburban life, the experiences of people living in the suburbs, and how the suburbs and car culture have been represented in film, television, and news media. This course also examines contemporary trends in suburban development in the U.S. and in countries around the world.

URBN 3710  Fundamentals of Urban Design  
This course provides a combination of lectures, illustrations and hands-on project development opportunities in the field of design. It is basic in nature, tailored to the undergraduate curriculum and promotes the analysis and understanding of urban design issues and projects.

URBN 4002  The Shape of the City  
The course focuses on those forces which have impacted and shaped major United States cities. Comparisons between New Orleans and other major cities are drawn.

URBN 4003  The Post World War II City  
This course is a survey of some of the major structural and fiscal changes that have impacted the post-war American city.
URBN 4005  The Everyday City  3 cr.
This course explores the everyday landscape of the city. Through readings and observational exercises, students will learn to interpret everyday landscapes and understand the processes that shape them. This is a service learning course and students will complete an applied project with a community partner.

URBN 4100  Gentrification in Historic Districts  3 cr.
This course examines processes of gentrification in historic districts. Students will examine the social and physical effects of urban change while also exploring the techniques and issues that arise with efforts to preserve historic areas of the city. Using New Orleans as a case study, students will examine the impacts of historic preservation and gentrification for different social groups in the city.

URBN 4150  Planning for Hazards  3 cr.
This course examines and analyzes the occurrence, magnitude, and distribution of a broad variety of hazards and discusses appropriate public policy responses in order to protect public safety and to reduce physical and economic damage.

URBN 4670  Grantwriting for Planners  3 cr.
This course will review all aspects of writing grants for public funding through federal, state and local governments and for private funding from corporations, foundations and non-profit organizations. Techniques of grant writing including grant application preparation, project research, funding authority backgrounds, legal requirements, financial projections and project management will be reviewed. Specific tools such as letters of intent, request for proposals, request for qualifications and public bid responses will be covered in this course along with follow-through aspects of project management, project audits and project scheduling.

URBN 4800  Studies in Special Urban Problems  3 cr.
This course is a study of urbanization. The city as a social and cultural environment and the social problems of cities. Topics vary by semester. May be taken up to 3 times for a total of 9 credit hours.

URBN 4810  Environmental Justice in Urban Environments  3 cr.
This course examines the treatment of all groups in the US with respect to benefits and burdens from the development, implementation and enforcement of environmental laws, regulations and processes. Particular emphasis is given to the problems of the disproportionate siting of hazardous waste treatment, storage, disposal, and recycling facilities in poor and minority neighborhoods.

Program Evaluation

Once every two academic years, UNO faculty and staff will meet with DCC faculty and staff to review current curriculum and course offerings and present any changes to the curriculum outlined in this agreement prior to implementing the proposed changes. This meeting will include review the performance of Urban Studies and Planning Pathway students and other transfer students in general education and upper level courses to compare Urban Studies and Planning Pathway students to that of continuing UNO students. Both UNO and DCC will agree upon mutually approved strategies for future program growth and development.
Program Renewal

This agreement will be renewed every three years from the date of signing and will be continued, modified or terminated upon mutual agreement of the parties.

University of New Orleans (UNO)

John W. Nicklow, PhD  
President

Mehyar Amouzegar, PhD  
Provost and Senior Vice President  
For Academic Affairs

Bethany Slight, PhD  
Department Chair  
Department of Planning and Urban Studies  
Director, UNO Transportation Institute

Delgado Community College (DCC)

John V. Davis, J.D.  
Chancellor

Kathleen Curphy, PhD  
Vice Chancellor of Academic Affairs and Provost

Warren R. Puneky, J.D.  
Dean of Business and Technology
Item G.9. University of New Orleans' request for approval to enter into an Urban Studies and Planning Pathway Agreement between Northshore Technical Community College and the University.

EXECUTIVE SUMMARY

The University of New Orleans (UNO) requests approval of an Urban Studies and Planning Pathway Agreement with Northshore Technical Community College (NTCC). The purpose of the proposed agreement is to establish a transferable pathway for NTCC students to become eligible for direct admission into UNO's Bachelor of Science in Urban Studies and Planning (BSUSP). This pathway will provide students with a transparent and systematic outline to successfully complete a baccalaureate degree from UNO and an associate degree from NTCC. The institutions will partner to facilitate student access through a seamless and concurrent blend of curricula.

Northshore students who complete the Maritime Technology Vessel Operations degree will be admitted as juniors into the BSUSP at UNO provided they meet the requirements as outlined in the proposed agreement. The total number of credit hours required to complete the BSUSP at UNO is 120 hours; students may transfer up to 60 credit hours from NTCC to UNO. Northshore students who successfully transfer to UNO will earn the BSUSP after completing the additional required credit hours (69) at UNO and any additional UNO degree requirements.

The Urban and Planning Pathway between UNO and NTCC will help to ensure both institutions are being proactive in addressing challenges in the economy and resulting changes in the higher education landscape. In addition, the partnership ensures the participating institutions are responsive to relevant workforce needs of the local, state, and regional industry partners. As a result, NTCC and UNO mutually agree to include a representative from both institutions for program advisory meetings, industry partnership meetings, economic development meetings, and chamber meetings when relevant to the Urban Studies and Planning Pathway.

RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves University of New Orleans' request to enter into an Urban Studies and Planning Pathway Agreement between Northshore Technical Community College and the University.
March 13, 2017

James B. Henderson
President
University of Louisiana System
1201 North Third Street
Baton Rouge, LA 70802

Re: Urban Studies and Planning Pathway Agreement between Northshore Technical Community College and UNO

Dear Dr. Henderson,

I am requesting approval of an Urban Studies and Planning Pathway Agreement between Northshore Technical Community College and the University of New Orleans to establish a transferable pathway for NTCC students to become eligible for direct admission into the Urban Studies and Planning program at UNO.

Thank you for your consideration.

Sincerely,

John W. Nicklow
President
Pathway to Urban Studies and Planning

BETWEEN

THE BACHELOR OF SCIENCE IN URBAN STUDIES AND PLANNING

THE UNIVERSITY OF NEW ORLEANS

AND

NORTHSHORE TECHNICAL COMMUNITY COLLEGE

2017 - 2018

Purpose
The Bachelor of Urban Studies and Planning (BSUSP) of the University of New Orleans (UNO) and Northshore Technical Community College (NTCC) have entered into this agreement establishing a transferable pathway for NTCC students to become eligible for direct admission into Urban Studies and Planning at UNO. This pathway provides students a transparent and systematic outline for successfully completing a baccalaureate degree from UNO in Urban Studies and Planning and an associate degree from NTCC. The institutions will partner to facilitate student access through a seamless and concurrent blend of curricula.

Program
Northshore Technical Community College students who have completed the Associates Degree in Maritime Technology Vessel Operations Track will be admitted as juniors in the Bachelors of Urban Studies and Planning at the University of New Orleans provided they meet the requirements as outlined in this agreement.

The total number of credit hours required to complete a bachelor's degree in Urban Studies and Planning at UNO is 120 hours. Students may transfer up to 60 credit from NTCC before transferring to UNO. NTCC students who successfully transfer to UNO will earn a Bachelor's degree in Urban Studies and Planning from the University of New Orleans after successfully completing the additional required credit hours (69) at UNO and meeting all UNO degree requirements.

NTCC students will follow the requirements in the UNO Undergraduate/Graduate Catalog in force at the time they enter NTCC provided it is not older than Academic Year 2016-2017 and provided there was no break in enrollment for one regular semester (fall or spring) at NTCC, not including summer sessions.

All students must meet the minimum requirements for transfer admission to UNO as stated in the UNO Undergraduate/Graduate Catalog in force at the time of their application for admission.

In order to graduate from UNO, students must achieve a quality point ratio of 2.0 or better in all work attempted, all work taken at UNO, and all courses in the major.

Enrollment Management
Some courses in this program may require prerequisites. See NTCC and UNO Catalogs for specific requirements.

NTCC and UNO mutually agree to review and approve together all student recruitment materials and events pertaining to the Urban Studies and Planning Pathway as defined in this agreement. NTCC and UNO will
participate in joint recruitment activities that include but are not limited to high school visits and presentations, community outreach events, and on-campus orientations.

**Workforce Development**

The Urban Studies and Planning Pathway between UNO and NTCC helps to ensure both institutions are being proactive in addressing challenges in the economy and resulting changes in the higher education landscape. In addition, the partnership ensures the participating institutions are responsive to relevant workforce needs of our local, state, and regional industry partners. As a result, NTCC and UNO mutually agree to include a representative from both institutions for program advisory meetings, industry partnerships meetings, economic development meetings, and chamber meetings when relevant to the Urban Studies and Planning Pathway.

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<td>MATH 1115, 1031, 1125 or higher (MATH 1005 - or 1015, 1500)</td>
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<td>MATH 1116, 1032, 1126 or higher (MATH 1650, 2410)</td>
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<td>ENGL 2152 or URBN 46705 (a/o)</td>
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<td>Statistics6 (MATH 2410)</td>
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<td>MURP 4000</td>
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<td>1 &quot;C&quot; or better.</td>
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<td>2 6 hours from the fields, select from: ANTH, ECON, GEOG, POLI, PSYC, SOC or URBN. Check General Education Courses to confirm what courses fulfill this requirement.</td>
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<td>3 3 hours BIOS required.</td>
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<tr>
<td>4 An additional 3 hours of BIOS and 3 hours of Physical Science, or 6-hour sequence the same Physical Science.</td>
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<tr>
<td>5 Students who take URBN 4670 in lieu of ENGL 2152 have an additional 3 credit hour elective.</td>
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<tr>
<td>6 SOC 2707 recommended; POLI 2900 or MATH 2314 are acceptable.</td>
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<td>7 Choose 8 courses from URBN 2100, 2890 and any 3000-level or above from URBN, MURP, PADM, GEOG and related courses.</td>
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<tr>
<td>8 Students may select a 12-credit hour concentration in Urban Planning or Transportation. Check with the program to see which courses are appropriate for each concentration.</td>
<td></td>
</tr>
<tr>
<td>9 A minimum of 50% of the courses included in the Major requirements must be at the 3000+ level. A minimum of 50% of the credit hours used to satisfy the Major requirements must be taken at The University of New Orleans. The maximum number of hours transferable from a community or junior college for degree credit is 60. No credit earned at a community or junior college may be used for credit at the 3000 or 4000 course level.</td>
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BA 3080  Corporate Social Responsibility  3 cr.
Offered each semester. Investigates the elements which form the ethical standards of the United States
corporate community and the philosophical, religious, and cultural roots of such standards. Reading in ethical
problems of advertising, pricing, automation, and business involvement in solution of social problems. Includes
case studies and simulations.

EDHS 4610  Nutritional Aspects of Health and Physical Fitness  3 cr.
The role of nutrition in health promotion and physical fitness is considered through exploring general topics
such as nutrient categories, dietary planning, and nutrition education. Also covered are specific areas such as
energy balance, weight control, the role of nutrition in fitness and athletic performance, and community
nutrition.

EDHS 4701  Emotional Health and Critical Issues  3 cr.
A study of positive emotional health designed to enhance the student's own emotional health. Promotes the
use of techniques to help self and others deal with problem areas having emotional content.

EDHS 4703  Stress Management for Health Promotion  3 cr.
This course focuses upon the relationship between stress and health, disease and stress management
techniques. Also, theory and practical applications for a variety of populations will be included.

EDHS 4900  Exercise and Mental Health  3 cr.
This class will examine the relationship between exercise and many aspects of mental health. The current
knowledge base and theoretical models pertaining to the relationship between exercise and mental health will
be examined. Practical application of the concepts will be emphasized. Topics will include exercise
prescription, well-being, anxiety, depression, stress, self-esteem, flow, peak experiences, and exercise
addiction.

GEOG 4310  Political Geography  3 cr.
Examination of the spatial structure of the state spatial interactions among states, geopolitical theories, law of
the sea, electoral patterns within the United States, and urban political geography.

GEOG 4805  Fundamentals of Mapping and GIS  3 cr.
Prerequisite: Math 1115 or higher. Lecture and project-based introduction to the basic concepts and
technologies important to mapping, geographic information systems (GIS), and image analysis. Topics include
map design fundamentals, thematic mapping, statistical cartography, the relationship of mapping to GIS,
essential elements of GIS, data acquisition and analysis, visualization of output, remotely sensed imagery and
GIS, GIS functions and associated applications, and spatial decision support systems. This course will meet
the needs not only of students who intend to do additional work in geographic techniques, but those who need
only a one-semester survey of concepts.

GEOG 4810  Introduction to Remote Sensing  3 cr.
A comprehensive introductory course that deals with fundamental physical principles of the science of remote
sensing, the theory and practice of image interpretation, and information extraction techniques for aerial photos
and satellite imagery. Includes remote sensing applications pertaining to management of natural resources and
contemporary environmental issues. Practical exercises expose students to image processing and
interpretation techniques.

GEOG 4820  Remote Sensing II: Digital Image Processing and Analysis  3 cr.
Prerequisite: GEOG 4810 or consent of department. This course examines the quantitative, computational,
and applied aspects of remotely sensed data, with the goal of providing students with an in-depth
understanding of image processing analysis, and interpretation techniques. Topics include scientific
visualization, geometric, radiometric, and atmospheric correction: image enhancement and manipulation,
information extraction, land-use and land-cover change detection, integration of GIS and remote sensing data
and spatial modeling. Class applications will address issues related to environmental analysis, land and water
resource inventory and use, and urban analysis. Practical exercises expose students to image processing and
information extraction techniques.
GEOG 4830   GIS Theories and Concepts  3 cr.
Prerequisite: 4805 or consent of department. Detailed lecture and lab-based examination of theories and concepts important to geographic information systems (GIS). Topics include GIS as a communication system, data acquisition and management, error management, GIS functions, GIS-based spatial analysis, GIS and regional scale, visualization concepts, the role of GIS in spatial decision support.

GEOG 4832   Advanced Techniques in GIS  3 cr.
Prerequisites: GEOG 4805 and GEOG 4830, or consent of department. This course introduces ArcObjects, the technology framework of ArcGIS, to advanced GIS users. This technology allows users to customize and extend the capabilities of ArcGIS. The class material covers customization of GIS applications and user-interface, program coding of GIS functions and tools, and script writing to automate GIS processes.

HIST 4543   United States Urban History  3 cr.
Departmental consent required. Urban development in the United States from the colonial town to the twentieth century megalopolis.

MANG 3467   Human Resource Management  3 cr.
A study of principles and policies associated with managing human resources of a business including strategic HR management, recruitment, selection, training, performance management, compensation, benefits, labor relations, and the legal environment impacting HR management.

MANG 4400   Survey of Management Topics  3 cr.
A survey of basic management topics in organization behavior, management information systems, and operations management. Provides an introduction to fundamental management concepts for pre-MBA students who have not had prior coursework in these areas. Not open to undergraduate College of Business majors. May not be taken for graduate credit.

MANG 4424   Leadership in Organizations  3 cr.
Prerequisite for MANG 4424: MANG 3401 or consent of department. Prerequisite for MANG 5424: MANG 3401 or MANG 4400 or consent of department. An in-depth examination of leadership in organizations. Emphasis is upon theory and application of leadership in a variety of situations and organizational settings.

MURP 4140   Environmental Planning  3 cr.
This course focuses on the impact of public and private planning, policies, and programs on the natural and man-made environment of our urban regions. The subject matter includes environmental law, environmental impact statements, environmental politics, land use policy, air and water resources, energy policy, and solid wastes.

MURP 4145   Coastal Zone Planning and Administration  3 cr.
Coastal zones are valuable natural resource areas that are fragile, in great demand, and in danger of system collapse. This course develops the concepts of coastal resources, examines the many strategies for resource management and administration, and analyzes guidelines and standards for planning activities in the coastal zone.

SOC 4881   The Urban Community  3 cr.
An analysis of the major sub-communities and subcultures to be found in any large urban complex. Special attention will be given to neighborhoods, ethnic and racial groups, suburbs, and religious and occupational subcultures.

URBN 1000   Introduction to Cities  3 cr.
This course is an introduction to contemporary cities. It examines the social, technological, political, aesthetics, economic and environmental forces that have shaped urban environments. It also discusses how different spatial forms and functions reflect these forces.

URBN 2000   The New Orleans Region  3 cr.
This course introduces the social, cultural, economic, and political trends that shaped the New Orleans region.
URBN 2100 Globalization and Mobility 3 cr.
The purpose of this course is to explore the influence of the movement of people and freight on globalization in local, regional, and state economic development in the United States. Mobility and economic development in developing countries will also be considered. Part of the course will examine globalization and part will examine economic development strategies that communities can take to address the mobility challenges and opportunities created by globalization. Export promotion, attracting foreign direct investment, outsourcing, and immigration are some of the topics covered.

URBN 2999 Public Service 3 cr.
Department consent required. Participation in an on-going public service project as an unpaid volunteer to learn about service work. Participants are expected to contribute an average of three hours per week at times mutually agreeable to the individual and the organization. Membership in the UNO Honors Program required. Offered each semester.

URBN 3002 Introduction to Urban Studies 3 cr.
A multidisciplinary introduction to urban studies which examines classic arguments and recent discourses on the urban processes and urban life. North American cities will be examined through social sciences, environmental studies, architecture and design, public policy and urban planning.

URBN 3150 The Suburbs and Car Culture 3 cr.
This course examines suburbanization as part of the economic and social process of urbanization and as a defining part of the American cultural landscape. It explores the many influential forces that shaped the suburbs, including car use as a fundamental dimension of suburban life, the experiences of people living in the suburbs, and how the suburbs and car culture have been represented in film, television, and news media. This course also examines contemporary trends in suburban development in the U.S. and in countries around the world.

URBN 3710 Fundamentals of Urban Design 3 cr.
This course provides a combination of lectures, illustrations and hands-on project development opportunities in the field of design. It is basic in nature, tailored to the undergraduate curriculum and promotes the analysis and understanding of urban design issues and projects.

URBN 4002 The Shape of the City 3 cr.
The course focuses on those forces which have impacted and shaped major United States cities. Comparisons between New Orleans and other major cities are drawn.

URBN 4003 The Post World War II City 3 cr.
This course is a survey of some of the major structural and fiscal changes that have impacted the post-war American city.

URBN 4005 The Everyday City 3 cr.
This course explores the everyday landscape of the city. Through readings and observational exercises, students will learn to interpret everyday landscapes and understand the processes that shape them. This is a service learning course and students will complete an applied project with a community partner.

URBN 4100 Gentrification in Historic Districts 3 cr.
This course examines processes of gentrification in historic districts. Students will examine the social and physical effects of urban change while also exploring the techniques and issues that arise with efforts to preserve historic areas of the city. Using New Orleans as a case study, students will examine the impacts of historic preservation and gentrification for different social groups in the city.

URBN 4150 Planning for Hazards 3 cr.
This course examines and analyzes the occurrence, magnitude, and distribution of a broad variety of hazards and discusses appropriate public policy responses in order to protect public safety and to reduce physical and economic damage.
URBN 4670  Grant writing for Planners 3 cr.
This course will review all aspects of writing grants for public funding through federal, state and local governments and for private funding from corporations, foundations and non-profit organizations. Techniques of grant writing including grant application preparation, project research, funding authority backgrounds, legal requirements, financial projections and project management will be reviewed. Specific tools such as letters of intent, request for proposals, request for qualifications and public bid responses will be covered in this course along with follow-through aspects of project management, project audit and project scheduling.

URBN 4800  Studies in Special Urban Problems 3 cr.
This course is a study of urbanization, the city as a social and cultural environment and the social problems of cities. Topics vary by semester. May be taken up to 3 times for a total of 9 credit hours.

URBN 4810  Environmental Justice in Urban Environments 3 cr.
This course examines the treatment of all groups in the US with respect to benefits and burdens from the development, implementation and enforcement of environmental laws, regulations and processes. Particular emphasis is given to the problems of the disproportionate siting of hazardous waste treatment, storage, disposal, and recycling facilities in poor and minority neighborhoods.

Program Evaluation
Once every two academic years, UNO faculty and staff will meet with NTCC faculty and staff to review current curriculum and course offerings and present any changes to the curriculum outlined in this agreement prior to implementing the proposed changes. This meeting will include review the performance of Urban Studies and Planning Pathway students and other transfer students in general education and upper level courses to compare Urban Studies and Planning Pathway students to that of continuing UNO students. Both UNO and NTCC will agree upon mutually approved strategies for future program growth and development.

Program Renewal
This agreement will be renewed every three years from the date of signing and will be continued, modified or terminated upon mutual agreement of the parties.

University of New Orleans
(UNO)

John W. Nicklow, PhD  Date
President

Mahyar Abdouzager, PhD  Date
Provost and Senior Vice President for Academic Affairs

Bethany Stack, PhD  Date
Department Chair
Department of Planning and Urban Studies
Director, University of New Orleans
Transportation Institute

Northshore Technical Community College
(NTCC)

William S. Wainwright, PhD  Date
Chancellor

Daniel Roberts, PhD  Date
Provost and Vice Chancellor of Academic Affairs

Jim Caruso, EdD  Date
Dean of Academics
Item G.10. University of New Orleans’ request for approval to award an Honorary Doctorate of Humane Letters to Brigadier General Chad P. Franks at the Spring Commencement Exercises.

EXECUTIVE SUMMARY

The University of New Orleans (UNO) requests approval to award an Honorary Doctorate of Humane Letters to Brigadier General Chad P. Franks. Brig. Gen. Franks entered the Air Force in 1990 after completing his undergraduate degree in General Studies at UNO. He continued to pursue higher education during his military service, earning a Master of Military Operational Art in 2003 from the Air Command and Staff College and a Master of Strategic Art in 2010 from the Army War College. Brig. Gen. Franks has served in a variety of flying positions during assignments in the Air Force Special Operations Command, Air Education and Training Command, and Air Combat Command. Brig. Gen. Franks has commanded at the wing, group, and squadron levels.

Today Brig. Gen. Franks serves as Vice Commander, 14th Air Force (Air Forces Strategic), Air Force Space Command, at Vandenberg Air Force Base, California. The Air Force’s only space numbered Air Force provides ready space forces and command and control capabilities and is comprised of 12,000 personnel with 28 weapon systems at 44 locations worldwide. The 14th Air Force plans, tasks and directs missile warning, space superiority, space situational awareness, satellite operations, and space launch and range operations. Brig. Gen. Franks provides leadership and guidance for the 14th Air Force staff, five space wings, the 614th Air Operations Center, and the 614th Air and Space Communications Squadron.

Due to his gallantry and devotion to duty, Brig. Gen. Franks is a well-decorated military officer. He has been awarded many medals of commendation including the Silver Star in 1999 during the Operation Allied Force; the Legion of Merit for actions during the Global War on Terror; and a Bronze Star with oak leaf cluster for exceptionally meritorious conduct in the performance of outstanding services to the Government of the United States. The University of New Orleans is proud of Brig. Gen. Franks’ service to his country and his achievements in leadership; the University would like to bestow an Honorary Doctorate of Humane Letters in recognition of all that Brig. Gen. Franks has accomplished.
RECOMMENDATION

It is recommended that the following resolution be adopted:

NOW, THEREFORE, BE IT RESOLVED, that the Board of Supervisors for the University of Louisiana System hereby approves the University of New Orleans' request to award an Honorary Doctorate of Humane Letters to Brigadier General Chad P. Franks at the Spring Commencement Exercises.
March 13, 2017

Dr. Jim Henderson
President
The University of Louisiana System
1201 North Third Street
Baton Rouge, LA 70802

Dear Dr. Henderson,

The University of New Orleans requests approval to award an Honorary Doctorate of Humane Letters during the University's spring commencement on Saturday, May 13, 2017 to Brigadier General Chad P. Franks.

Brig. Gen. Franks completed his undergraduate degree in General Studies at UNO in 1990. He continued his military studies over the next 20 years, earning a Master of Military Operational Art in 2003 and a Master of Strategic Art in 2010.

Thank you for your consideration of this request. Please do not hesitate to contact me should you have any questions.

Sincerely,

[Signature]

John W. Nicklow
President
March 2, 2017

To: John Nicklow, President, University of New Orleans

Through: Mahyar Amouzegar, Provost and Senior Vice President for Academic Affairs

From: Elaine S. Brooks, Professor and Academic Director of Interdisciplinary Studies

Dear President Nicklow:

The Department of Interdisciplinary Studies recommends that the University of New Orleans award Brigadier General Chad P. Franks an Honorary Doctorate of Human Letters during the University’s spring commencement ceremony on Saturday, May 13, 2017. Brig. Gen. Franks completed his undergraduate degree in General Studies at UNO in 1990. He continued his military studies during the next 20 years, earning a Master of Military Operational Art in 2003 and a Master of Strategic Art in 2010. Brig. Gen. Franks was commissioned through the Reserve Officer Training Corps program and joined the U.S. Air Force after his graduation in 1990. He quickly rose through the Air Force ranks from his first responsibility as Chief, Air Traffic Control Officer in 1992 to the rank of Brigadier General in 2016; he is currently the Vice Commander of the 14th Air Force (Air Forces Strategic) in Vandenberg AFB, California.

He was awarded the Silver Star on March 27, 1999 during the Operation Allied Force. As the pilot of an MH-60G Pave Hawk Helicopter of the 55th Special Operations Squadron, the Military Times wrote: “...in action near Batajnica, Serbia ... Captain Franks participated in a
combat Search-and-Rescue Task Force tasked with locating and recovering an American F-117A pilot shot down within 25 miles of Belgrade ... Captain Franks landed his Pave Hawk helicopter within 100 yards of the downed airman while his Pararescue men established a hasty perimeter. With minimal communication but careful and discreet authentication of his identity, Captain Franks was airborne within sixty seconds, before any enemy response could occur ... By his gallantry and devotion to duty, Captain Franks has reflected great credit upon himself and the United States Air Force.”

Brig. Gen. Franks has also been awarded many other medals of commendation including the Legion of Merit for actions during the Global War on Terror and a Bronze Star with oak leaf cluster for exceptionally meritorious conduct in the performance of outstanding services to the Government of the United States. Attached to this letter of recommendation for the awarding of an Honorary Doctorate is the official U.S. Air Force biography of Brig. Gen. Chad. P. Franks. The Department of Interdisciplinary Studies (referred to as General Studies in 1990) and the entire University of New Orleans community are proud of Brig. Gen. Franks’ service to his country and his achievements in leadership.

Sincerely,

Elaine S. Brooks, Ph.D.

Dr. Elaine S. Brooks
Academic Director, Interdisciplinary Studies
Professor of Spanish
ED 128 A / esbrooks@uno.edu; phone: 280-6589
University of New Orleans
BIOGRAPHY

UNITED STATES AIR FORCE

BRIGADIER GENERAL CHAD P. FRANKS

Brig. Gen. Chad Franks is Vice Commander, 14th Air Force (Air Forces Strategic), Air Force Space Command, Vandenberg Air Force Base, California. The Air Force’s only space numbered Air Force provides ready space forces and command and control capabilities and is comprised of 12,000 personnel with 28 weapon systems at 44 locations worldwide. As Air Force Space Command’s operational space component to U.S. Strategic Command, the 14th Air Force plans, tasks and directs missile warning, space superiority, space situational awareness, satellite operations, and space launch and range operations.

General Franks provides leadership and guidance for the 14th Air Force staff, five space wings, the 614th Air Operations Center, and the 614th Air and Space Communications Squadron.

General Franks entered the Air Force in 1990 after graduating from the Air Force ROTC program at the University of New Orleans. He has served in a variety of flying positions during assignments in Air Force Special Operations Command, Air Education and Training Command and Air Combat Command. He has commanded at the wing, group, and squadron level.

Gen. Franks is a command pilot with over 3,300 hours in the T-37, UH-1, UH-1N, HC-130J and NH/HH-60G. He has deployed in support of Operations Provide Comfort, Northern Watch, Allied Force and Iraqi Freedom.

EDUCATION
1990 Bachelor of Arts in General Studies, University of New Orleans, La.
1997 Squadron Officer School, Maxwell AFB, Ala.
2003 Master of Military Operational Art, Air Command and Staff College, Maxwell AFB, Ala.
2004 Joint Forces Staff College, Norfolk Naval Station, Va.
2010 Master of Strategic Art, Army War College, Carlisle Barracks, Pa.

ASSIGNMENTS
3. April 1994 - October 1994 Student, Undergraduate Pilot Training, Laughlin AFB, Texas
6. April 2000 - July 2002 Evaluator Pilot, Flight Commander and Assistant Director of Operations, 84th Flying Training Squadron, Laughlin AFB, Texas
8. July 2003 - May 2005 Futures Analyst Staff Officer, United States Special Operations Command, MacDill AFB, Fla.
9. May 2005 - June 2007 Operations Officer, 512th Rescue Squadron, Kirtland AFB, N.M.
13. August 2012 - June 2013 Chief of Staff, Air Force Central Command, Al Udied AB, Qatar
15 July 2015 - August 2016, Senior Executive Officer to the Vice Chief of Staff, the Pentagon, Washington D.C.
16 August 2016 - present, Vice Commander, 14th Air Force (Air Forces Strategic), Vandenberg AFB, Calif.

SUMMARY OF JOINT ASSIGNMENTS
1. Jul 2003 - May 2005, Future Concepts Staff Officer, Headquarters United States Special Operations Command, MacDill AFB, Fla., as a Major
2. Jul 2012 - Jun 2013, Director of Staff, Air Force Central Command, Al Udeid Air Base, Qatar, as a Colonel

FLIGHT INFORMATION
Rating: Command Pilot
Flight Hours: 3300
Aircraft Flown: T-37, UH-1, UH-1N, HC-130J, MH/HH-60G

MAJOR AWARDS AND DECORATIONS
Silver Star
Legion of Merit with oak leaf cluster
Bronze Star with oak leaf cluster
Defense Meritorious Service Medal
Meritorious Service Medal with three oak leaf clusters
Air Medal with oak leaf cluster
Air Force Aerial Achievement Medal with oak leaf cluster
Air Force Commendation Medal
Iraq Campaign Medal with oak leaf cluster
Kosovo Campaign Medal
NATO Medal with oak leaf cluster

EFFECTIVE DATES OF PROMOTION
Second Lieutenant Oct. 23, 1990
First Lieutenant Oct 23, 1992
Captain Oct. 23, 1994
Major Dec. 1, 2001
Lieutenant Colonel March 1, 2006
Colonel Oct. 1, 2009
Brigadier General May 3, 2016

(Current as of August 2016)