April 19, 2010

TO: Academic Senate Members

FROM: Office of Academic Governance
Vicki Carlisle, Academic Governance Secretary

RE: Academic Senate Meeting

The Academic Senate will meet on **Wednesday, April 21 at 2:00 p.m. in the T.I. Auditorium, ECS South 2.102.**

Please bring the agenda packet with you to this meeting. If you cannot attend, please notify me at x6751.

Attachments

<table>
<thead>
<tr>
<th>xc:</th>
<th>David Daniel</th>
<th>James Marquart</th>
<th>Larry Redlinger</th>
<th>Daniel Calhoun</th>
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<tbody>
<tr>
<td>Hobson Wildenthal</td>
<td>John Wiorkowski</td>
<td>Darrelene Rachavong</td>
<td>Abby Kratz</td>
<td>Chief Larry Zacharias</td>
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<td>Andrew Blanchard</td>
<td>Calvin Jamison</td>
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<td>Deans</td>
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<tr>
<td>Serenity King</td>
<td>Inga Musselman</td>
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<td>Diana Kao, SGA President</td>
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</table>

2009-2010 Academic Senate

Anderson, Mark  
Andreeescu, Titu  
Beron, Kurt  
Bhatia, Dinesh  
Boots, Denise  
**Breen, Gail**  
Burr, John  
Cantrell, Cyrus  
Chandrasekaran, R.  
Cordell, David**  
Dieckmann, Greg  
Dowling, Jay  
Durbin, Kelly  
Hoffman, John  
Holmes, Jennifer  
Holub, Shayla  
Huxtable-Jester, Karen  
Ishak-Bouchaki, Mustapha

Izen, Joseph  
Kieschnick, Robert  
Kumar, Nanda  
Leaf, Murray*  
Menon, Syam  
Miller, Dennis  
Murthi, B.P.S.  
Nielsen, Steven  
**Ntafos, Simeon**  
Prakash, Ravi  
Redman, Timothy  
Rosen, Mark  
Ryu, Young  
Scotch, Richard  
Sriskandarajah, Chelliah  
**Stern, Robert**  
Thompson, Lucien  
Wissinger, Tonja

*Speaker  
**Secretary
AGENDA
ACADEMIC SENATE MEETING
April 21, 2010

1. CALL TO ORDER, ANNOUNCEMENTS & QUESTIONS DR. WILDENTHAL
2. APPROVAL OF THE AGENDA DR. LEAF
3. APPROVAL OF MINUTES DR. LEAF
   MARCH 24, 2010 Meeting
4. SPEAKER’S REPORT DR. LEAF
5. UTD SUSTAINABILITY POLICY DONNA RIHA
6. DRAFT UTD POLICY ON FINANCIAL EXIGENCEY DR. LEAF
7. CEP PROPOSALS – CERTIFICATE IN SUPPLY CHAIN MANAGEMENT, BSBME DEGREE PLAN, UNDERGRADUATE CATALOG DR. CANTRELL
8. CANDIDATES FOR GRADUATION DR. LEAF
9. RESULTS OF SENIOR LECTURER ELECTION DR. CORDELL
10. ADJOURNMENT DR. WILDENTHAL
UNAPPROVED AND UNCORRECTED MINUTES

These minutes are disseminated to provide timely information to the Academic Senate. They have not been approved by the body in question, and, therefore, they are not official minutes.

ACADEMIC SENATE MEETING
March 24, 2010

PRESENT: Kurt Beron, Dinesh Bhatia, Denise Boots, Gail Breen, John Burr, Cy Cantrell, R. Chandrasekaran, David Cordell, Dreg Dieckmann, Kelly Durbin, John Hoffman, Jennifer Holmes, Karen Huxtable-Jester, Joe Izen, Marilyn Kaplan, Nanda Kumar, Murray Leaf, Syam Menon, Dennis Miller, Simeon Ntafos, Ravi Prakash, Tim Redman, Mark Rosen, Richard Scotch, Chelliah Sriskandarajah, Tonja Wissinger

ABSENT: Mark Anderson, Titu Andreescu, Jay Dowling, Shayla Holub, Steven Nielson, Young Ryu, Robert Stern, Lucien Thompson

VISITORS: David Daniel, Hobson Wildenthal, Andrew Blanchard, Serenity King, Austin Cunningham, Michael Coleman, Abby Kratz, Julie Haworth, Daniel Calhoun, Chris Parr, Diana Kao

1. CALL TO ORDER, ANNOUNCEMENTS AND QUESTIONS
President Daniel called the meeting to order. There were no announcements or questions.

2. APPROVAL OF THE AGENDA
Since the information regarding the Exigency Policy, Item #8 on the agenda, was not circulated prior to the meeting, Speaker Leaf asked for a motion to table that item. Cy Cantrell made the motion. Jennifer Holmes seconded. The agenda was approved as amended. Speaker Leaf noted that the Council had voted to put the Sustainability Policy on the agenda for today’s meeting as well, but since today’s meeting is restricted to one hour; he felt that there would not be adequate time to discuss it. This item will be on the agenda for next month’s meeting, but no motion is required since it was not on the circulated agenda for today’s meeting.

3. APPROVAL OF MINUTES
Cy Cantrell made a motion to approve the minutes as circulated. Tim Redman seconded. The motion carried.

4. SPEAKER’S REPORT
Speaker Leaf noted that the email ballot held to approve the President’s Draft Strategic Plan received 29 votes in favor and 1 abstaining vote. That constitutes a quorum and a positive vote. Speaker Leaf has informed President Daniel that according to the interpretation put on the motion at the previous Senate meeting, the Senate not only approves his draft but deems it consistent with earlier faculty-developed strategic plans.
It was noted that 35 nominating petitions were received for the coming Senate. Since this was less than the 45 seats that we sought to fill but enough for a good representative body, the nominations have been declared closed and there is no need to circulate ballots. Everyone who was nominated has been elected. Ms. Carlisle has appended the list of the Senate-elect to the list of Senators on the website. The Senior Lecturer election is still going on.

5. **UTD RESPONSE TO STATE LEADERSHIP REQUEST FOR UNIVERSITY BUDGET CUTS**

President Daniel addressed the 5% cut in state spending requested by the Governor for this academic year and next academic year. Our state appropriation is approximately 40% of our core operating capital. The remaining 60% of our capital is essentially derived from student tuition and fees. Theoretically when you have a 5% cut on 40% of your budget you have a 2% cut. In actuality it is a little worse than that because when faculty and staff are appointed on state funds, fringe benefits, which are about 30% of salary, are paid from a different fund. He had hoped that UT System might be able to mitigate the hit somewhat by using some potential savings off of our debt funded by the state, such as capital programs funded by the state, but that does not seem to be the case right now.

This did not come as a surprise and UTD does have a plan in place for this. Our enrollment growth continues to be strong – estimate 5%-6% growth next year. We have budgeted for a little less than that so Dr. Daniel is hopeful that there will be a little residual surplus. We have been aggressive on tuition anticipating that state budgets would be stretched, and that puts us in a relatively good position. There is no plan for any layoffs, but of course that cannot be guaranteed. He commended Dr. Wildenthal and Dr. Jamison for their work in managing the budget and noted that we continue to search for economies that are not academically related.

When asked how the budget cuts would affect the summer session, President Daniel called on Provost Wildenthal to answer. Dr. Wildenthal stated that there should not be any effect and faculty should plan to have a strong summer session as usual. Dr. Daniel reiterated that his primary concern is that our core academic mission is what is to be protected. It is his belief that no student should ever be delayed in graduation through any reductions. Dr. Wildenthal noted that in future budget planning summer sessions will be specifically budgeted in advance.

Dr. Izen asked what the priorities are for addressing the space allocation problem currently experienced in the Physics department – specifically how to get students and faculty together in the same building. Dr. Daniel acknowledged the desirability of keeping people together but noted that there was so much flux currently on campus with space issues that it simply is not possible to address this until some of the construction is completed and moves begin taking place.

6. **APPROVAL OF SENATE BUDGET ADVISORY COMMITTEE MEMBERS**

Speaker Leaf called for a motion to approve the nominees and to amend the charge in accordance with the recommendation of the Academic Council. The amendment proposed by the Council is to make the Speaker of the faculty a voting ex-officio member in place of one of the two at-large members. The description of membership in the charge as amended will then be:
The Committee shall have nine voting members. One voting member shall be appointed from the faculty of each School and one voting member shall be chosen from the faculty at large for special expertise or interest in institutional budgeting. The Speaker of the faculty shall be a voting member ex officio. Members shall serve staggered three-year terms, except that in the first year three of the nine members shall be appointed for one year, three for two years and three for three years. The Associate Vice President for Budget and Resource Planning shall serve as member ex officio and assure that the Committee receives information on the budget in a form the Committee finds usable. Voting members shall be appointed according to the procedures in the Handbook of Operating Procedures III.21.IV.B Vacancies that arise from resignation or departure shall be filled in the same manner.

The nominees to be approved are:
- Dr. Robert Kieschnick (Chair), (SOM)
- Dr. Timothy Redman, (A&H)
- Dr. Richard Scotch (EPPS)
- Dr. D.T. Huynh (ECS)
- Dr. Mark Anderson (SOM)
- Dr. Robert Serfling (NS&M)
- Dr. Jay Dowling (BBS)
- Dr. Elizabeth Salter (IS)
- Dr. Murray Leaf (Speaker of the Faculty, ex officio)

Marilyn Kaplan moved to approve the nominees of the Senate Advisory Committee on the University Budget. Cy Cantrell seconded the motion. There was no discussion. The motion carried.

Richard Scotch made a motion to approve the amended charge as stated. Jennifer Holmes seconded. There was no further discussion and the motion carried.

7. CEP PROPOSALS – NEW DEGREE PLANS, GRADUATE AND UNDERGRADUATE CATALOG

7.1 Professor Cantrell made an omnibus motion to approve three new degree proposals from the School of Management: Bachelor of Science in Global Business; Bachelor of Science in Management Information Systems; and Bachelor of Science in Marketing. Marilyn Kaplan seconded the motion. Dr. Cantrell asked if anyone from SOM would care to make comments regarding these proposals. Marilyn Kaplan stated that all three of these degrees had formerly been concentrations for several years in the Business Administration degree. These are not new courses. It is felt that having these more specific degrees will give our students a competitive edge in the job market.

7.2 Professor Cantrell moved to approve the undergraduate catalog as circulated. Dean Coleman explained the changes. All the programs and the first forty pages had been previously approved. The portion that has not been previously approved consists of the program descriptions and the course descriptions. The Council on Undergraduate Education and the office of the Registrar have systematically gone through the catalog to rationalize the course numbers and titles, as well as to incorporate the new degree programs. Courses that are properly lower level courses but had been offered as upper
level as a legacy of the time before we had lower level programs have been renumbered. New minors have been included. New prefixes have been added for new programs, and inconsistencies in naming and numbering been new and old programs have been reconciled. Professor Scotch Seconded the motion. The motion carried.

7.3 Professor Cantrell moved to approve the Graduate Catalog. Dean Cunningham explained the changes, which paralleled those in the undergraduate program and included a reconciliation between the catalog copy and our new graduate application form that replaces the Apply Texas common application. A number of modifications, previously approved by the Senate, were to bring us into compliance with the requirements of the Southern Association of Colleges and Schools. Richard Scotch seconded. Before voting, Professor Cantrell circulated additional material from the School of Management that was approved by the CEP but not included in the agenda packet. There being no further discussion Speaker Leaf called for a vote.

8. ADJOURNMENT

There being no further business, President Daniel adjourned the meeting.

APPROVED: ___________________________  DATE: ____________________
Murray J. Leaf
Speaker of the Academic Senate
The University of Texas at Dallas Sustainability Policy

Policy

The University of Texas at Dallas aspires to be one of the nation’s best public research universities focused on research and education in emerging areas of technology, science, and learning. This includes excellence in advancing environmental stewardship and sustainability on our campus, in our academic and research programs, and in our public service and outreach activities. Efficient energy and water use is central to this objective and energy-conservation efforts provide a means to save money, foster environmental awareness, reduce the environmental consequences of University activities, and provide educational leadership for the 21st century.

To accomplish this goal, the University shall establish procedures to consider conservation of utilities’ use and sustainability in the design and operation of University facilities in the most economical and environmentally friendly manner possible, educate the University community on sustainability measures, and consider conservation in purchasing decisions and transportation. Our day-to-day decisions and actions will be guided by the University’s Sustainability Policy.

Rationale

This policy promotes efforts to support initiatives that increase efficiency, reduce emissions, promote sustainability and contribute meaningfully to the environment, while achieving the mission of the University.

Scope

This policy applies to the University main campus and other University-owned facilities in the Dallas Metroplex.

Definition

Sustainability refers to societal efforts that meet the needs of present users without compromising the ability of future generations to meet their own needs. This is accomplished through teaching, research, service, and administrative efforts that benefit our various communities.
Implementation

Education:
The University will integrate the Sustainability Policy in educating faculty, staff, and students, promote the development and expansion of sustainability-related research and curriculum, support sustainability-related service and learning opportunities on and off campus, and encourage sustainability-themed programming opportunities and events.

Campus Operations:
In campus planning, operations and activities, the University will use resources in a manner that takes into consideration environmental, social and economic impacts. The University will seek to integrate sustainability considerations into all business decisions including but not limited to:
- Energy and water management
- Procurement
- Materials and resource management
- Landscaping and grounds maintenance
- Transportation
- Dining
- Building construction, renovation, operation, and maintenance

Community Engagement:
The University will seek to establish partnerships with government, business and community organizations that strive to foster environmental consciousness and lead to the betterment of our campus and surrounding communities, encourage research by faculty that benefits the local community, share experiences and provide outreach to the community wherever feasible, increase awareness and inform the community on sustainability-related issues
Establishment of a UT Dallas Sustainability Committee

UT Dallas' Sustainability Committee's mission is to foster a culture of environmental responsibility in which the entire UTD community is aware of, engaged in and committed to advancing environmental awareness and sustainable practices through education, research, operations, and community service activities.

The University Sustainability Committee's purpose is to bring together stakeholders who will champion the University's efforts of promoting environmental awareness and sustainability throughout our campus community. The Committee will develop and recommend to the President short-, mid-, and long-term sustainability measures which can be implemented within budgetary, legal, regulatory and programmatic constraints. All recommendations will be evaluated on a Life Cycle Cost Basis.

The Committee members will consist of the following seven representatives:

Chair
   Tenured faculty, preferably one actively engaged in academic pursuit of sustainability curriculum or research

Two Faculty Members
   One from NS&M or Engineering (alternating)
   One from EPPS or Business or Arts & Humanities (alternating)

Two Staff
   Assistant Director of Procurement
   Representative of Staff Council

Two Student Members
   One from the Office of Student Government
   One from a student group/club supportive of sustainability initiatives

Ex Officio Members
   Vice President of Business Affairs
   Assistant Vice President of Facilities Management
   Energy Conservation and Sustainability Manager
   Assistant Vice President of Communications
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DRAFT U T DALLAS POLICY ON FINANCIAL EXIGENCY (Rev 3 MR 2010)

Preamble

The enunciation of a policy in Rule 31003, Section 1, of the Regents' Rules and Regulations (http://www.utsystem.edu/bor/rules.htm#A4) concerning the Abandonment of Academic Positions or Programs calls for the President of the University to determine institutional procedures for an in-depth review to inform and guide decisions on these matters. Section 2 concerns elimination for “Academic Reasons.” Section 3 concerns elimination due to financial exigency. In accord with Rule 31003, U. T. Dallas policy and procedures relating to Section 3 are as follow.

GENERAL POLICY ON INTERPRETATION OF REGENT’S RULES

Regents Rule 31003, abandonment of academic positions or programs must be interpreted in the light of Rule 40101 which gives faculty the “major role” in regard to “general academic policies and welfare” and related matters and in the light of the further provisions that assign these faculty responsibilities to the faculty governance organization and require that the organization and procedures of the governance organization be set out in the university Handbook of Operating Procedures and subject to governance review and approval. In addition, the University accepts the recommendations regarding declarations of exigency in the American Association of University Professors “Recommended Institutional Regulations on Academic Freedom and Tenure.”

The term “faculty committee” as used in Regents Rules section 31003 shall be understood here as meaning the Academic Senate of the University of Texas at Dallas, the regular committees of the Senate, or any ad hoc committee that the Senate may assign responsibilities to in order to respond to the exigency. It does not include committees that the Senate does not constitute or approve.

INITIAL DECLARATION OF FINANCIAL EXIGENCY

Financial Exigency: a demonstrably bona fide financial crisis that adversely affects an institution as a whole and that, after considering other cost-reducing measures, including ways to cut faculty costs, requires consideration of terminating appointments held by tenured faculty. Financial exigency is an imminent financial crisis that threatens the survival of the institution as a whole and that cannot be alleviated by less drastic means. Whenever there is reason to anticipate that the University is sufficiently threatened by financial exigency, declines in enrollment, or changes in educational needs to endanger the continuance of the University's obligations to faculty members with tenure or those on tenure-track, regular academic appointments, the President at the earliest date possible shall inform the Faculty Senate and all potentially affected budgetary units of the problem.

The President shall consult with the Senate and the concerned budgetary units to determine the nature and seriousness of the problem, the most appropriate of the possible courses of action to be taken, and the means of safeguarding faculty rights and interests, including tenure rights. In
ITEM #6

solving such a problem, The University shall make every reasonable effort to reassign affected faculty members to other suitable work and to aid them in finding other employment.

On the basis of these deliberations, the President shall write an Initial Declaration of Financial Exigency giving the extent and scope of the emergency and the general approach to be taken to respond to it.

CONCURRENCE OF THE SENATE

The President shall submit the Initial Declaration of Exigency to the Senate for advice and concurrence. Concurrence requires a majority vote of the Senate. This process may involve amendments, mutually agreed upon. Concurrence will result in a joint Senate-presidential Exigency Plan. The joint Plan shall include a formula for the membership of the committee “composed of faculty and administrative personnel to make recommendations to the president as to which academic positions and/or academic programs should be eliminated as a result of the financial exigency” in accordance with rule 3.1, as well as the general criteria the committee should apply in making its recommendations.

PROCEDURE FOR ELIMINATING POSITIONS

Upon concurrence, the Senate shall nominate faculty to serve on the committee to review the President’s declaration, assure that there is no alternative to the proposed actions, and develop a process to make the needed decisions as outlined in Regents Rules 31003, Section Part 2, Sections 3.2 to 3.5, provided that:

For section 3.1, the “committee composed of faculty and administrative personnel” the general size and composition of the committee shall be agreed upon by the Senate and the President, provided that it has at least seven members, of whom will be faculty. Once this is done, the Senate will nominate the faculty members. At least a majority of the faculty nominated will be tenured. The nominations should seek to represent the university as a whole, not just programs initially slated to be reduced or just those not so slated, and at least some of them will have served on the Committee for Qualifications of Academic Personnel. The President shall not appoint faculty to the committee who are not nominated by the Senate. This committee shall be called hereafter the Exigency Committee.

For section 3.2, assessment of academic programs. The Exigency Committee will provide a written report of its analysis of programs, which shall be submitted to the Senate for review and response before recommendations are made for specific positions to be eliminated. As stated in the Rule, “The committee will review and assess the academic programs of the institution and identify those academic positions that may be eliminated with minimum effect upon the degree programs that should be continued and upon other critical components of the institution’s mission. The review will include, but not be limited to, as relevant: (a) an examination of the course offerings, degree programs, supporting degree programs, teaching specialties, and semester credit hour production; (b) an evaluation of the quality, centrality, and funding of research activities; and/or (c) an assessment of the productivity, community service, and quality of clinical services (in relation to teaching, healthcare delivery, and scholarly activity).” The Committee shall consider and may offer advice on all avenues by
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which terminations of faculty members can be avoided or minimized, and, as well, by which the negative effects of any necessary terminations can be mitigated. Unless an extension is approved by the President, the Committee shall submit its recommendations in writing complete its work in a period of time no longer than 60 days.

In section 3.3, Review Consideration. After the President approves the recommendations regarding programs to be cut, the Exigency Committee next recommends specific positions to be eliminated. These recommendations should also be contained in a written report. The recommendations should be related to the Exigency Committee’s assessment of programs. If other officers of the university, such as deans or program chairs, are involved in identifying individuals whose appointments are to terminated, the process for obtaining these recommendations should be described in the report. The Exigency Committee will have available the personnel records of those being considered including current curriculum vitae, annual reports, promotion committee reports and recommendations, and results of periodic performance reviews. It will have access to full personnel files. Faculty whose positions would be jeopardized by the proposed actions will be provided the opportunity to contribute meaningfully to the Committee's review process.

For section 3.4, Tenure Preference. The Exigency Committee should not apply an unduly narrow interpretation of the idea that two candidates should be “equally qualified” before preference is given to one with tenure over one without. Preference should be given to tenured faculty over non-tenured if they are have approximately the same qualifications and prospects, and to more senior faculty over less senior provided that their accomplishments are roughly proportional to their relative academic lifetimes. The decisions should be consistent with the general principle that greater contributions will gain greater recognition.

In section 3.5, Recommendation. According to the Rule, “upon completion of its review,” the Exigency Committee “shall promptly recommend in writing to the president those persons who may be terminated, ranked in order of priority, with the reasons for their selection. The president shall, with such consultation with institutional administrative officers as the president may deem appropriate, determine which academic positions are to be terminated because of the financial exigency and shall give the holders of these positions written notice of the decision.” The Exigency Committee recommendations to the President shall be made in writing. Unless an extension is approved by the President, the Committee shall complete its work in a period of time no longer than 60 days from the submission of the initial report, specified in section 3.2 recommendations identifying the programs or positions to reduce or eliminate.

PROCEDURE FOR NOTICE AND APPEAL

A faculty member whose position has been eliminated is entitled to appeal the decision, subject to the requirements of Regents’ Rules 31003 section 3.8.

The issues in this hearing may include:
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(a) The existence and extent of the exigency. The burden will rest on the administration to prove the existence and extent of the condition. The findings of other hearing involving the same issue may be introduced.

(b) The validity of the educational judgments and the criteria for identification for termination, although the panel should give presumptive weight to the previous judgments of the Senate and the exigency committee.

(c) Whether the criteria developed by the exigency committee are being properly applied in the individual case.

The hearing shall be held before a panel consisting of full-time faculty drawn from the list of faculty in the pool approved for service on hearing tribunals in accordance with the UTD Policy on Hearing Tribunal Selection Procedures, provided that such faculty are not in the academic programs affected by the decision. At least half of the membership of such panels shall be from faculty recommended by the Senate. The size of such appeals panels shall be determined as part of the guidelines for the declaration of exigency. The Hearing Panel shall elect its own Chair. The hearing must be held no later than 30 days after a written request is submitted to the President's office.

The employment of a tenured faculty member who is to be terminated under this policy shall extend only to the termination of his/her academic term; faculty will be allowed reasonable time to close down laboratories, complete teaching assignments, and transfer their responsibilities. If an entire program or part of a program is cut, employment of all faculty in that program will terminate when the program itself is terminated, and will not extend beyond the termination of the program. During this period of employment and for 3 additional years, the terminated faculty member shall have the right to first consideration among equally qualified candidates for any faculty position at U. T. Dallas for which a recruitment and hiring process is conducted and for which the faculty member in question formally applies. In addition, the considerations noted in Rule 31003, Section 2, Subsections 2.6 - 2.11 of the Regents’ Rules and Regulations will be extended to the faculty member to be terminated.

NO CONCURRENT REPLACEMENTS

If appointments are terminated, the University will not at the same time make new appointments except in extraordinary circumstances where a serious distortion in the academic program would otherwise result. Similarly, the appointment of a faculty member with tenure will not be terminated in favor of retaining a faculty member without tenure, except in extraordinary circumstances where a serious distortion of the academic program would otherwise result.
Proposed Academic Certificate Program

Title: Graduate Certificate in Product Lifecycle and Supply Chain Management

School: School of Management

Contact: Dr. Divakar Rajamani, divakar@utdallas.edu

Implementation Date: Fall 2010

Introduction/Description:

The process of delivering goods and services better, faster & cheaper sounds simple, but can sometimes be unpredictable and lead to shortages or surpluses. Over the past two decades, the supply chain journey has evolved through a number of distinct phases, along with a shift in power from suppliers to customers. Over the course of this evolution, supply chain professionals have expanded their perspective and philosophy from an inventory-centric view in the 80s to an order-centric view in the 90s to product-centric view today. As product lifecycles shrink, innovation has risen to the top of the CEO agenda. But product innovation cannot meet the business objectives of lifecycle profitability without supply chain process considerations. Future supply chain professionals need to get involved in the product development process to enable both product and process innovation. The product lifecycle perspective becomes more important because it provides a holistic view across disparate enterprise silos in order to provide a coordinated response to the end-customer — who is the ultimate driver of demand.

With shrinking product lifecycles across the board, companies no longer have the luxury of assuming that “things will work out in the long run.” When studies show that 80% of the total cost structure over a product’s lifecycle is predetermined during the conceptualization and design phase, a shorter lifecycle dramatically increases the risk of forgoing a significant portion of return on investments. Moreover, today’s more environmentally-conscious societies are shifting more of the burden to the manufacturer on proper disposal of their products when the products reach the end of their lifecycle. The new cost of compliance further adds to margin pressures. Thus, product lifecycle isn’t just for the enterprise that designs a product — it needs to be embraced by every enterprise that supports it in an end-to-end supply chain. Integration of product lifecycle and supply chain management can provide fresh perspectives and critical insights that are often missed due to the extreme fragmentation of functions within the enterprise and across supply chains. This is the new frontier for value creation, an untapped area of opportunity to create competitive differentiation and growth for businesses and hence the focus of the proposed program.

Academic Focus of the Certificate:

Academically, the graduate certificate program will focus on educating executives and industry sponsored employees in the disciplines of product lifecycle and supply chain management by combining theory and practice. It will emphasize the need to understand “the big picture”, the importance of renewed focus on product lifecycle from design to disposal and supply chain from end to end. Students will be trained to be effective problem solvers to continuously improve the product performance and supply chain efficiency. The program will employ lectures, case studies, site visits in addition to use of quantitative and qualitative methods to meet the learning objectives of the program. Students are required to
integrate classroom learning with work projects. The program will leverage the world-class faculty in the operations management and industry leaders/practitioners to deliver the program. The program will be “exciting” to the students and “relevant” to the hiring organizations.

Job Market for the Certificate:

Target Audience – A typical student is an expert in one or more functional areas such as engineering, manufacturing, product development, procurement, distribution, warehousing, logistics, information technology and consulting and aspires to become a product manager, operations manager, general manager, business partner and is interested in gaining a cross functional knowledge and manage projects across multiple functions and extended global enterprises.

The UTD School of Management is located at the convergence of Richardson, Plano and Dallas in the heart of the complex of major multinational technology corporations known as the Telecom Corridor, and serves the greatest community – DFW area. The regional credentials and diverse business base can “leverage” any investment dramatically. Industries include: Telecommunications, High-tech Manufacturing, System Integration, Software / Services, Transportation, Energy and Defense. There are approximately more than 130,000 businesses in the Dallas/Fort Worth area and more than 1,500 regional and corporate headquarters operations. We expect to enroll between 10-15 students in the first year and steadily grow to between 30-40 students.

Admission Policy:

- Acceptable undergraduate degree.
- Significant professional experience.
- GMAT or GRE not required.
- Personal Goal Statement.
- Three favorable recommendations.

Organizational Arrangement:

The Graduate Certificate in Product Lifecycle & Supply Chain Management is offered by the Center for Intelligent Supply Networks in partnership with the Project Management program in Executive Education department at School of Management, UT Dallas.

Credit Hours and Degree Programs:

The Graduate Certificate provides comprehensive training in Product Lifecycle and Supply Chain Management, combining theory and practice. Graduate Certificate is earned after completing 15 credit hours in 9-12 months.

The graduate certificate program classes will start in September each year. Classes are held in a convenient schedule for working professionals – Thursday, Friday and Saturday – all day, once a month.

Course Offerings and Site Locations (note new courses with an asterisk):
The following are the course numbers, name and credit hours.

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Name</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>OPRE 6366</td>
<td>Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>OPRE 6370</td>
<td>Logistics and Distribution</td>
<td>3</td>
</tr>
<tr>
<td>OPRE 6371</td>
<td>Purchasing and Sourcing Management</td>
<td>3</td>
</tr>
<tr>
<td>OPRE 6379</td>
<td>Product Lifecycle Management *</td>
<td>3</td>
</tr>
<tr>
<td>OPRE 6364</td>
<td>Lean and Six Sigma</td>
<td>3</td>
</tr>
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* New course

**Location:** All classes are scheduled to be offered at School of Management, University of Texas at Dallas.

**Faculty/Staffing (assign each course to a faculty member):**

<table>
<thead>
<tr>
<th>Name of Core Faculty and Faculty Rank</th>
<th>Highest Degree and Awarding Institution</th>
<th>Courses Assigned in Program</th>
<th>% Time Assigned to Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Metin Cakanyildirim Associate Professor</td>
<td>Ph.D. Cornell University, USA</td>
<td>OPRE 6366: Supply Chain Management</td>
<td>10%</td>
</tr>
<tr>
<td>Dr. Milind Dawande Professor</td>
<td>Ph.D. Carnegie Mellon University, USA</td>
<td>OPRE 6370: Logistics and Distribution</td>
<td>10%</td>
</tr>
<tr>
<td>Dr. Chelliah Sriskandarajah Ashbel Smith Professor</td>
<td>Ph.D. National Polytechnic Institute of Grenoble, France</td>
<td>OPRE 6371: Sourcing and Purchasing Management</td>
<td>10%</td>
</tr>
<tr>
<td>Dr. Divakar Rajamani Clinical Professor</td>
<td>Ph.D. University of Windsor, Canada</td>
<td>OPRE 6379: Product Lifecycle Management</td>
<td>50%</td>
</tr>
<tr>
<td>Dr. Kannan Ramanathan Senior Lecturer</td>
<td>Ph.D. University of Illinois at Urbana-Champaign, USA</td>
<td>OPRE 6364: Lean &amp; Six Sigma</td>
<td>10%</td>
</tr>
</tbody>
</table>
The Center for Intelligent Supply Networks is a part of the school of management and was established in 2003. The center's mission is to be a leader and premier provider of product lifecycle and supply chain management education, research, consultation and information for individuals and organizations. The center is actively supported by an advisory board. Its responsibilities are to (a) ensure that the Center's "products/services" are aligned with its "customers", (b) help promote the center, and (c) influence the research initiatives and its academic programs. It has broad representation from end-user companies, technology providers, systems integrators, and UTD faculty. The center has been offering continuing education in Product Lifecycle, Supply Chain Management, Sourcing Management and Lean & Six Sigma through professional certificate programs and custom programs which are usually 4 months in duration. The advisory board has been instrumental in guiding the development of content for the various programs and has also supported the programs by sending participants. More than 400 participants from 50+ companies have been awarded certificates so far. A few strategic partners in the past include: Alcatel-Lucent, Blockbuster, Brinks Logistics, Dr. Pepper, Dell, Ericsson, Estech, FedEx Office, Fujitsu Networks, JC Penney, Labinal, Lennox, L3-Communications, Raytheon and SAP.

Email Responses from Industry Advisors:

From: Tim Pickens [mailto:tpickens@esi-estech.com]
Sent: Tuesday, March 02, 2010 1:39 PM
To: Rajamani, Divakar
Subject: RE: Graduate Certificate Program

After having reviewed the Proposed Academic Certificate Program in Product Lifecycle and Supply Chain Management to be offered by UTD, I believe that this program offers many of the vital skills and information critical to the success of industry leaders in today's global economy. At no time in recent history has it been more vital for companies to seize every opportunity to improve margins, decrease cycle times and minimize costs. In many cases it is not simply a matter of improving profitability; it is a matter of survival. The proposed curriculum offers what I believe is a balanced and thorough program that will produce leaders who have the knowledge, insight and skills to successfully and profitability manage products throughout their lifecycle. This program will position the participants and their respective organizations for strong future success.

Tim Pickens
VP Product Operations
Estech Systems Inc. (ESI)

From: Harker, Tracy [mailto:THarker@hitachiconsulting.com]
Sent: Wednesday, March 03, 2010 12:00 PM
To: Rajamani, Divakar
Subject: RE: Graduate Certificate Program

The significant growth of outsourced manufacturing and extended supply chains in the 90's exposed weaknesses in product lifecycle management and the necessity for collaboration with suppliers. Early supplier involvement and concurrent engineering processes improved communications, resulting in benefits in quality, cost, and time to market. As innovation has accelerated and customer expectations increased, highly coordinated collaborative processes, both inside the enterprise and across the supply chain, have evolved to assure development resources are focused on the right priorities, products are meeting the expectations of the market, and the time to market is providing a competitive advantage. Understanding these solutions and the integration of PLM and Supply Chain disciplines is imperative to achieving best in class performance.

Tracy L. Harker
Vice President,
Management Consulting
“Effective supply chain management is crucial to any manufacturer or distributor. It drives cost of sales - that big number that appears just below the ‘top line’. In the new world order of “design anywhere, build anywhere, deliver anywhere”, there is going to be increasing demands placed on the supply chain management professional. This new program at UT-Dallas teaches the skills and offers the professional development that elevates supply chain professionals to become capable executives who can deal with a wide variety of challenges on a global basis.”
Paul Peck
CEO, Global Supply Chain Solutions LLC.

Divakar,
The proposed certificate program is on track for what is needed now and well into the future. This program will allow professionals to not only have the academic credential to cross silos but also have practical experience.
For businesses to thrive it is essential that individuals understand product lifecycles and supply chain management. In addition they must have the ability to educate the organization on the need to collaborate across all disciplines to maximize a product potential to the company.
William J. Wissing
SVP Distribution & Logistics Blockbuster Inc.
Certificate Program Assessment Plan

Program: Graduate Certificate in Product Lifecycle and Supply Chain Management  
Start Date: Sept 2010

Program Head: Dr. Divakar Rajamani  
Phone: 972-883-4843  
Email: divakar@utdallas.edu

**Mission Statement:** The graduate certificate program will focus on educating executives and industry-sponsored employees in the disciplines of product lifecycle and supply chain management, combining theory and practice. They will be trained to effectively problem solve and continuously improve the product performance and supply chain efficiency. The program will employ lectures, case studies, site visits in addition to use of quantitative and qualitative methods to meet the learning objectives of the program. Students are required to integrate classroom learning with work projects. The program will leverage the best faculty in the operations management and industry leaders/practitioners to deliver the program. The program will be “exciting” to the students and “relevant” to the hiring organizations.

**Class Hours:** Thursday, Friday and Saturday – all day, once a month

**Approximate Credit Hours:**

<table>
<thead>
<tr>
<th>Certificate Program Learning Goals</th>
<th>Assessment Procedures/Methods (Courses incorporating procedures/methods)</th>
<th>Criterion of Success</th>
<th>Data Collection Schedule</th>
</tr>
</thead>
</table>
| 1. Learn supply chain management techniques and tools for effectively designing, planning and executing the end-to-end supply chain processes | 1. Quizzes and/or Exams  
2. Assignments  
3. Case Discussion and Presentations  
4. Projects and Presentations | Student success will be determined by their combined performance in the assessment methods chosen | At the end of each semester or course completed |
| 2. Learn the product lifecycle management techniques and tools for effectively introducing new products, improving product performance and lifecycle margins. | 1. Quizzes and/or Exams  
2. Assignments  
3. Case Discussion and Presentations  
4. Projects and Presentations | Student success will be determined by their combined performance in the assessment methods chosen | At the end of each semester or course completed |
| --- | --- | --- | --- |
| 3. Learn lean and six sigma techniques and tools for effective problem solving and continuous improvement | 1. Quizzes and/or Exams  
2. Assignments  
3. Case Discussion and Presentations  
4. Projects and Presentations | Student success will be determined by their combined performance in the assessment methods chosen | At the end of each semester or course completed |
New Program Request Form for Bachelor’s and Master’s Degrees

Directions: An institution shall use this form to propose a new bachelor’s or master’s degree program. In completing the form, the institution should refer to the document Standards for Bachelor’s and Master’s Programs, which prescribes specific requirements for new degree programs. Note: This form requires signatures of (1) the Chief Executive Officer, certifying adequacy of funding for the new program; (2) a member of the Board of Regents (or designee), certifying Board approval, and (3) if applicable, a member of the Board of Regents or (designee), certifying that criteria have been met for staff-level approval. NOTE: Preliminary authority is required for all engineering programs. An institution that does not have preliminary authority for a proposed engineering program shall submit a separate request for preliminary authority prior to submitting the degree program request form. That request shall address criteria set in Coordinating Board rules Section 5.24 (a).

Information: Contact the Division of Academic Affairs and Research at 512/427-6200 for more information.

Administrative Information

1. Institution: The University of Texas at Dallas

2. Program Name – Show how the program would appear on the Coordinating Board’s program inventory (e.g., Bachelor of Business Administration degree with a major in Accounting):

   Bachelor of Science in Biomedical Engineering (B.S.B.M.E.)

3. Proposed CIP Code:

   14.0501.00, Biomedical/Medical Engineering

4. Brief Program Description – Describe the program and the educational objectives:

   The objective of the Bachelor’s degree program in Biomedical Engineering is to produce engineering graduates who will be capable of undertaking challenging projects that will require Bachelor’s-level knowledge of the design of mechanical, electrical and thermal systems, focused on life science applications.

   The primary educational objectives of the proposed Bachelor of Science program are to educate Biomedical Engineers to meet the design and development needs of local and state industry, and to prepare graduates for study in medical school and MS or PhD programs. The proposed B.S.B.M.E. program will undergird and strengthen the recently approved doctoral and Master’s programs in Biomedical Engineering at U.T. Dallas.

   Biomedical engineering principles are essential for the development of new technologies in the life sciences and micro-scale technologies associated with medical applications. Biomedical engineers must have the intellectual agility to contribute not only their specialized expertise in interdisciplinary collaborations for technology development, but to understand and appreciate the contributions of specialists in medical and health-related fields.
The proposed B.S.B.M.E. degree program will provide the necessary foundational education to allow graduates to contribute to challenging projects that will require knowledge of the fundamentals of the design of engineering and biological systems.

5. Administrative Unit – Identify where the program would fit within the organizational structure of the university (e.g., The Department of Electrical Engineering within the College of Engineering):

The Department of Bioengineering within the School of Engineering and Computer Science. The creation of this department was approved by THECB in January 2010.

6. Proposed Implementation Date – Report the first semester and year that students would enter the program:

Spring 2011

7. Contact Person – Provide contact information for the person who can answer specific questions about the program:

Name: Dr. Mark Spong

Title: Dean of Engineering and Computer Science and Lars Magnus Ericsson Professor of Electrical Engineering

E-mail: "Spong, Mark W" <mws081000@utdallas.edu>

Phone: 972 883-2974
Program Information

I. Need

Note: Complete I.A and I.B only if preliminary authority for the program was granted more than four years ago. This includes programs for which the institution was granted broad preliminary authority for the discipline.

A. Job Market Need – Provide short- and long-term evidence of the need for graduates in the job market.

The principal areas of focus of the Career Center of the Biomedical Engineering Society are the following:¹

- Instrumentation – application of electronics to sensing, diagnosis, and treatment
- Biomaterials – tissue and artificial materials used for replacement or implantation
- Biomechanics – application of mechanics (motion, heat transfer, etc.) to medicine
- Cellular, tissue, and genetic engineering – microscopic-level work addressing medical application
- Clinical engineering – application of systems engineering principles to hospital health care systems, integrating computer and information systems with patient care
- Imaging – development of improved medical imaging devices and data analysis methods
- Orthopedic engineering – application of engineering to solution of orthopedic problems such as bones, joints, and muscles
- Rehabilitation engineering – addresses quality of life issues such as prosthetics, hearing loss, and home/work enhancements
- Systems physiology – engineering applied to function of living organisms.

It is clear from this list that biomedical engineering is a broad field that includes virtually every application of engineering to medicine, biology, and health care. To enable Bachelor’s graduates to enter this field, the U.T. Dallas B.S.B.M.E. program will provide a strong foundation in mechanical and electrical engineering, as well as projects and courses focusing on biological and biomedical applications of engineering.

Long-term need

According to the Texas Workforce Commission’s website,² the demand for biomedical engineers will increase by 30% from 2006 to 2016. In 2008, the Bureau of Labor Statistics of the U.S. Department of Labor projected a growth of 21% in job openings for biomedical engineers through 2016. In 2010, the BLS radically revised their projection,

² http://socrates.cdr.state.tx.us/Socrates/occprofiles/occprofile.asp?soc=17-2031&reotype=&lwdt=00
AAR/1081.doc/No PDF
predicting a remarkable 72% employment growth for biomedical engineers from 2008 to 2018.\(^3\)

In 2003, the Texas Legislature passed, and Governor Perry signed, legislation to develop strategies to strengthen the competitiveness of key industry clusters, one of which is biotechnology and life sciences. The goal of the legislation is to support education "that will provide a skilled workforce pipeline to meet the short- or long-term needs of the target industries."\(^4\) In a 2006 report, the Perryman group estimated that, a decade after a 25% increase in engineering enrollments, the annual gross product of Texas "would be enhanced by $2.1 billion, and 22,349 permanent jobs would be added."\(^5\) This proposal for a B.S.B.M.E. degree program at U.T. Dallas supports the Texas Industry Cluster Initiative, and is responsive to the Perryman Group’s call for an increase in Texas’ engineering enrollments.

**Short-term need**

The Texas biomedical industry continues to grow. New academic programs in biomedical engineering will help to meet the need for engineers created by the growth of the biomedical industry. The Dallas/Fort Worth Metroplex has over 455 life science firms, ranging from established pharmaceutical and medical device companies to companies in the early development stages. The Metroplex hosts 38 basic chemical manufacturing facilities, 32 pharmaceutical and medical facilities, 215 medical equipment and supply facilities, and 170 scientific R&D firms. Current industry in the biotechnology and biomedical engineering sector residing in North Texas includes the following local manufacturers of medical devices account for approximately 4000 local employees: Advanced Neuromodulation Systems (devices for therapeutic neurostimulation) (recently acquired by St. Jude Medical), Avail Medical Products (disposable medical products), Avcor (medical supplies), B. Braun Medical (IV Pumps), Bledsoe Brace Systems (surgical appliances), Chase Medical (surgical and medical instruments), Galt Medical Corp. (surgical and medical instruments), Hydro-Med Products (disposable medical surgical specialty products), Innovative Spinal Technologies (surgical and medical instruments), MicroFab (tissue engineering), National Heritage (safety needle devices), Osteo Med L. P. (medical devices and surgical implants), Plexon (brain-machine interface technology), Quest Medical (surgical and medical instruments, electromedical equipment), Retractable Technologies (safety needle devices), Thermotek Inc. (surgical appliances, surgical and medical instruments), and Tyco Healthcare Group (medical supplies). The following local manufacturers of pharmaceutical and biochemical manufacturers account for approximately 5000 local employees: Abbott Laboratories (diagnostic instrumentation), Access Pharmaceuticals (pharmaceuticals), Adams Laboratories (pharmaceuticals), Alcon (ophthalmic medical products), American Embryo (vaccines for veterinary use), Bio-Synthesis (custom DNA peptide antibodies), Boehringer Ingelheim Corp. (pharmaceutical preparations), Carrington Laboratories (pharmaceutical preparations), Cumbre (discovery and development of


New Program Request Form for Bachelor’s and Master’s Degrees
Page 5

pharmaceuticals), Macrocyclics (pharmaceutical research), and MPM Medical Inc. (medical devices for wound care and oncology care). The local presence of a vibrant life sciences industry and a world-renowned medical school will afford many opportunities for co-op positions and internships for the U.T. Dallas Bachelor’s students in Biomedical Engineering.

B. Student Demand – Provide short- and long-term evidence of demand for the program.

Long-term demand

The past two decades have witnessed a rapid expansion of new biomedical engineering degree programs. Nationwide, there are currently about 18,000 undergraduate students studying biomedical engineering. Common destinations of Bachelor’s graduates in biomedical engineering include the workforce, medical school and graduate study.

Biomedical engineering is by far the most rapidly growing engineering discipline in terms of student enrollment and degrees granted. For example, from 1999 to 2008 the number of Bachelor’s degrees granted in biomedical engineering grew by a factor of 3.19, for a ten-year compound annual growth rate of 12.3%. This rate of growth contrasts with much lower annual growth rates of the number of bachelor’s degrees in long-established engineering fields such as Mechanical Engineering (3%), and a slight decline in Electrical Engineering (-0.2%). The very rapid growth in the number of biomedical engineering degrees granted nationwide attests to the recognition of substantial career opportunities in biomedical engineering by prospective students.

Short-term demand

The accompanying chart of U.S. Bachelor’s enrollment in biomedical engineering shows the level of interest in this degree from students nationwide, and indicates a strong potential for healthy enrollments at the undergraduate level at U.T. Dallas. Specific examples reinforce this projection. For example, UCLA had over 2000 applications for its first degree class in biomedical engineering, a class they capped at 35 places. In 2004, approximately half of the 2000 Duke engineering freshmen wanted to major in biomedical engineering.

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8 Dr. Janie Foulke, National Trends in Bioengineering, invited lecture at The University of Texas at Dallas, November 19, 2004.
9 Ibid.
AAR/1061.doc/No PDF
Heightened competition for admission to similar degree programs elsewhere in Texas is a strong indicator of short-term demand. The U.T. Austin undergraduate program in biomedical engineering accepts only 100 students per year,\textsuperscript{10} with the result that the students who are offered admission generally come from the top 3\% of their high school classes. Texas A&M University and the University of Houston are the only other two undergraduate programs in the state. Thus, the creation of a B.S.B.M.E. program at U.T. Dallas will help to meet student demand in Texas for additional high-quality undergraduate programs in biomedical engineering.

Because of the location of the proposed U.T. Dallas Bachelor’s biomedical engineering program in the Dallas/Fort Worth Metroplex, the Bachelor’s student enrollment should realistically surpass the Bachelor’s enrollment in many other biomedical engineering programs in Texas. U. T. Dallas receives 40 to 50 inquiries per year regarding an undergraduate biomedical engineering degree.

Over the next five years the U.T. Dallas B.S.B.M.E. program will grow to 5–6 full time equivalent faculty members. The hiring profile will be sufficient to support an undergraduate population of 100 to 150.

C. Enrollment Projections – Use this table to show the estimated cumulative headcount and full-time student equivalent (FTSE) enrollment for the first five years of the program. \textit{(Include majors only and consider attrition and graduation.)}

<table>
<thead>
<tr>
<th>YEAR</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headcount</td>
<td>50</td>
<td>66</td>
<td>89</td>
<td>117</td>
<td>156</td>
</tr>
<tr>
<td>FTSE</td>
<td>40</td>
<td>53</td>
<td>71</td>
<td>94</td>
<td>125</td>
</tr>
</tbody>
</table>

\textsuperscript{10} \url{http://www.bme.utexas.edu/academics/undergraduate_prospective.cfm}
II. Quality

A. **Degree Requirements** – Use this table to show the degree requirements of the program. *(Modify the table as needed; if necessary, replicate the table for more than one option.)*

One of the goals of the proposed B.S.B.M.E. program is to make it possible for students to satisfy the curricular requirements for admission to medical schools in Texas and elsewhere while simultaneously obtaining an engineering degree. BMEN 3330 and BMEN 4330 are intended to satisfy the Texas advanced biology requirement for medical school admission, as well as help meet the ABET requirement that an engineering program must provide at least one and one-half years (48 SCH) of engineering topics, exclusive of mathematics and science. If students take an additional 8 SCH of organic chemistry as in the following table, they will meet both the premedical curricular requirements and the ABET requirements for graduation with a B.S.B.M.E. degree as described in Section G.

The proposed B.S.B.M.E. program provides a solid foundation for both graduate study and medical school while requiring fewer hours than combinations of other engineering degree programs with the pre-medical requirements.

<table>
<thead>
<tr>
<th>Category</th>
<th>Semester Credit Hours</th>
<th>Clock Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Core Curriculum <em>(bachelor's degree only)</em></td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Major Preparatory Courses</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Major Required Courses</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Prescribed Electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Other <em>(Specify, e.g., internships, clinical work)</em></td>
<td>(if not included above)</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>126</strong></td>
<td></td>
</tr>
</tbody>
</table>
Curriculum – Use these tables to identify the required courses and prescribed electives of the program. Note with an asterisk (*) courses that would be added if the program is approved. (Add and delete rows as needed. If applicable, replicate the tables for different tracks/options.)

<table>
<thead>
<tr>
<th>Prefix and Number</th>
<th>General Education Core Curriculum</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHET 1302</td>
<td>Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>ECS 3390</td>
<td>Professional and Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 2301</td>
<td>Constitutional Foundations and Political Behavior in the U.S. and Texas</td>
<td>3</td>
</tr>
<tr>
<td>GOVT 2302</td>
<td>Political Institutions in the U.S. and Texas</td>
<td>3</td>
</tr>
<tr>
<td>HIST (various)</td>
<td>American History</td>
<td>6</td>
</tr>
<tr>
<td>ECS 3361</td>
<td>Social Issues and Ethics in Computer Science and Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1301</td>
<td>Exploration of the Arts</td>
<td>3</td>
</tr>
<tr>
<td>HUMA 1301</td>
<td>Exploration of the Humanities</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2417</td>
<td>Calculus 1 (1 SCH is counted in Major Preparatory Courses; see table below)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2419</td>
<td>Calculus 2 (1 SCH is counted in Major Preparatory Courses; see table below)</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2325</td>
<td>Mechanics and Heat</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2125</td>
<td>Physics Laboratory 1</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 2326</td>
<td>Electromagnetism and Waves</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2126</td>
<td>Physics Laboratory 2</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>General Chemistry I Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

Total General Education Core Curriculum 42
<table>
<thead>
<tr>
<th>Prefix and Number</th>
<th>Major Preparatory Courses</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 2417</td>
<td>Calculus 1 (3 SCH are counted in the General Education Core Curriculum; see table above)</td>
<td>1</td>
</tr>
<tr>
<td>MATH 2419</td>
<td>Calculus 2 (3 SCH are counted in the General Education Core Curriculum)</td>
<td>1</td>
</tr>
<tr>
<td>MATH 2420</td>
<td>Differential Equations with Applications</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1311</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>General Chemistry I Laboratory (1 SCH is counted in the Core; see table above)</td>
<td>0</td>
</tr>
<tr>
<td>CHEM 1312</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1112</td>
<td>General Chemistry II Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CS 1337</td>
<td>Computer Science I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2311</td>
<td>Introduction to Modern Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2111</td>
<td>Introduction to Modern Biology Workshop I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2312</td>
<td>Introduction to Modern Biology II</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2112</td>
<td>Introduction to Modern Biology Workshop II</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2281</td>
<td>Introductory Biology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Major Preparatory Course Hours</strong></td>
<td></td>
<td><strong>26</strong></td>
</tr>
<tr>
<td>Prefix and Number</td>
<td>Major Required Courses</td>
<td>SCH</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>BMEN 1102</td>
<td>*Introduction to Biomedical Engineering</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 1202</td>
<td>Introduction to Engineering&lt;sup&gt;11&lt;/sup&gt;</td>
<td>2</td>
</tr>
<tr>
<td>ENGR 2300</td>
<td>Applied Linear Algebra for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>MECH 2310</td>
<td>Static Equilibrium and Rigid-Body Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3300</td>
<td>Advanced Engineering Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3301</td>
<td>*Introduction to Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3101</td>
<td>*Biomechanics Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>EE 3302</td>
<td>Signals and Systems</td>
<td>3</td>
</tr>
<tr>
<td>EE 3102</td>
<td>Signals and Systems Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>BMEN 3310</td>
<td>*Fluid Mechanics and Transport Processes in Biomedical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3110</td>
<td>*Biomedical Transport Processes Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>BMEN 3315</td>
<td>*Thermodynamics and Physical Chemistry in Biomedical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3320</td>
<td>*Electrical and Electronic Circuits in Biomedical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3120</td>
<td>*Biomedical Circuits and Instrumentation Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>BMEN 3330</td>
<td>*Engineering Physiology of the Human Body</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3130</td>
<td>*Engineering Physiology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 3341</td>
<td>Probability Theory and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3350</td>
<td>*Biomedical Component and System Design</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 3150</td>
<td>*Biomedical Engineering Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

<sup>11</sup> Starting in the fall of 2010, the Erik Jonsson School will use the ENGR prefix to identify courses that are taken by students in multiple engineering disciplines.
New Program Request Form for
Bachelor's and Master's Degrees
Page 11

<table>
<thead>
<tr>
<th>EITHER BMEN 4310</th>
<th>*Feedback Systems in Biomedical Engineering</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR EE 4310</td>
<td>Systems and Controls</td>
<td>(3)</td>
</tr>
<tr>
<td>BMEN 4110</td>
<td>*Biomedical Feedback Systems Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 4388¹²</td>
<td>Senior Design Project 1</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 4389</td>
<td>Senior Design Project 2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Major Required Course Hours</strong></td>
<td></td>
<td><strong>52</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prefix and Number</th>
<th>Major Prescribed Electives (6 SCH)</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students must take two of the following three courses:</td>
<td>6</td>
</tr>
<tr>
<td>BMEN 4320</td>
<td>*Intermediate Electrical systems</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 4330</td>
<td>*Advanced Engineering Physiology of the Human Body</td>
<td>3</td>
</tr>
<tr>
<td>BMEN 4350</td>
<td>*Applied Sensor technology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Major Prescribed Elective Hours</strong></td>
<td></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

¹² To facilitate compliance with an ABET recommendation that senior design teams include students from multiple disciplines, the Erik Jonsson School will use common course numbers for senior design in most of its engineering degree programs starting in fall 2010. Senior design courses will comprise multiple sections focused on different engineering disciplines. B.S.B.M.E. students will enroll in sections with substantial biomedical design content.
<table>
<thead>
<tr>
<th>Prefix and Number</th>
<th>Optional Organic Chemistry Courses (8 SCH)</th>
<th>SCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2323</td>
<td>Introductory Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2123</td>
<td>Introductory Organic Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 2023</td>
<td>Introductory Organic Chemistry Laboratory I Recitation</td>
<td>0</td>
</tr>
<tr>
<td>CHEM 2325</td>
<td>Introductory Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2125</td>
<td>Introductory Organic Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 2025</td>
<td>Introductory Organic Chemistry Laboratory II Recitation</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Optional Organic Chemistry Hours</strong></td>
<td><strong>8</strong></td>
<td></td>
</tr>
</tbody>
</table>
Faculty - Use these tables to provide information about Core and Support faculty. Add an asterisk (*) before the name of the individual who will have direct administrative responsibilities for the program. (*Add and delete rows as needed.*)

Core faculty in Biomedical Engineering are assigned 100% to the suite of Biomedical Engineering degree programs, with 33.3% assignments to each of the component degrees (B.S.B.M.E., M.S.B.M.E. and Ph.D.B.M.E.). This assignment updates the faculty time assignments presented in other proposals.

<table>
<thead>
<tr>
<th>Name of Core Faculty and Faculty Rank</th>
<th>Highest Degree and Awarding Institution</th>
<th>Courses Assigned in Program</th>
<th>% Time Assigned To Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g.: Robertson, David Asst. Professor</td>
<td>PhD. in Molecular Genetics Univ. of Texas at Dallas</td>
<td>MG200, MG285, MG824 (Lab Only)</td>
<td>50%</td>
</tr>
<tr>
<td>Vidyasagar, Mathukumalli, Prof.¹³</td>
<td>Ph.D. in Electrical Engineering, Univ. of Wisconsin (Madison), 1969</td>
<td>BMEN 4310, BMEN 4110</td>
<td>33.3%</td>
</tr>
<tr>
<td>Bhatia, Dinesh, Assoc. Professor</td>
<td>Ph.D. in Computer Science, U.T. Dallas</td>
<td>BMEN 3320, BMEN 3120, BMEN 4350</td>
<td>33.3%</td>
</tr>
<tr>
<td>Nam, Hyunjoo, Asst. Professor</td>
<td>Ph.D. in Cellular and Developmental Biology, Harvard University</td>
<td>BMEN 1308, BMEN 4340</td>
<td>33.3%</td>
</tr>
<tr>
<td>*New Faculty in Year 2010</td>
<td>Ph.D. in Biomedical Engineering</td>
<td>BMEN 3310, BMEN 3110</td>
<td>33.3%</td>
</tr>
<tr>
<td>New Faculty in Year 2010</td>
<td>Ph.D. in Biomedical Engineering</td>
<td>BMEN 1102, BMEN 3302</td>
<td>33.3%</td>
</tr>
<tr>
<td>New Faculty in Year 2011</td>
<td>Ph.D. in Biomedical Engineering</td>
<td>BMEN 3350, BMEN 3150, BMEN 4110</td>
<td>33.3%</td>
</tr>
<tr>
<td>New Faculty in Year 2011</td>
<td>Ph.D. in Biomedical Engineering</td>
<td>ENGR 4388, ENGR 4389</td>
<td>33.3%</td>
</tr>
<tr>
<td>New Faculty in Year 2011</td>
<td>Ph.D. in Mechanical Engineering</td>
<td>MECH 3305, MECH 3105</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

¹³ Core faculty assignment will be changed from Mechanical Engineering to Biomedical Engineering.
Support faculty in Biomedical Engineering are assigned 50% to the suite of Biomedical Engineering degree programs, with 16.7% assignments to each of the component degrees (B.S.B.M.E., M.S.B.M.E. and Ph.D.B.M.E.). This assignment updates the faculty time assignments presented in other proposals.

<table>
<thead>
<tr>
<th>Name of Support Faculty and Faculty Rank</th>
<th>Highest Degree and Awarding Institution</th>
<th>Courses Assigned in Program</th>
<th>% Time Assigned To Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bleris, Leonidas, Asst. Professor (EE)</td>
<td>Ph.D. in Electrical Engineering, Lehigh University</td>
<td>BMEN 4310</td>
<td>16.7%</td>
</tr>
<tr>
<td>Nosratinia, Aria, Professor (EE)</td>
<td>Ph.D. in Electrical Engineering, University of Illinois–UIUC</td>
<td>BMEN 3341</td>
<td>16.7%</td>
</tr>
<tr>
<td>Goeckner, Matthew, Professor (MECH)</td>
<td>Ph.D. in Physics, University of Iowa</td>
<td>MECH 2310</td>
<td>16.7%</td>
</tr>
<tr>
<td>Tamil, Lakshman, Professor (EE)</td>
<td>Ph.D. in Electrical Engineering, University of Rhode Island</td>
<td>BMEN 2300</td>
<td>16.7%</td>
</tr>
<tr>
<td>Lee, Jyeong-Bong, Assoc. Professor (EE)</td>
<td>Ph.D. in Electrical Engineering, Georgia Tech</td>
<td>MECH 4360, MECH 4370</td>
<td>16.7%</td>
</tr>
<tr>
<td>Lee, Hoi, Asst. Professor (EE)</td>
<td>Ph.D. in Electrical and Electronic Engineering, Hong Kong Univ. of Science &amp; Technology</td>
<td>BMEN 4320, BMEN 4330</td>
<td>16.7%</td>
</tr>
</tbody>
</table>
D. **Students** – Describe general recruitment efforts and admission requirements. In accordance with the institution’s Uniform Recruitment and Retention Strategy, describe plans to recruit, retain, and graduate students from underrepresented groups for the program.

The historically underrepresented groups in engineering include African-Americans, Hispanic-Americans and women. The future of engineering jobs in Texas and the Nation depends on success in recruiting future engineers from these groups to replace expected retirements and enable growth in the number of engineers available to fill jobs in Texas and the U.S. Biomedical engineering, in particular, appeals strongly to women. In 2008, 38.6% of the Bachelor’s degrees granted in biomedical engineering in the U.S. went to women, in sharp contrast to the proportions of women graduates in other engineering disciplines such as Electrical Engineering (12.1%) and Mechanical Engineering (11.9%).

U.T. Dallas has historically graduated a higher proportion of women than the national average in both Electrical Engineering and Computer Science. For example, in 2006-2007, 28.9% of the students who earned Master’s degrees in Electrical Engineering at U.T. Dallas were women; the national average is 19.9%. We attribute this relatively modest success to a welcoming culture and a strong system of support through student organizations such as the Society of Women Engineers. At the undergraduate level, U. T. Dallas has established a strong reputation in terms of recruitment and retention of minority students through the Academic Bridge Program under the leadership of Dean George Fair. Expanded post-enrollment support programs will be essential in maintaining a reputation that will encourage students from underrepresented groups to apply to U.T. Dallas.

Going forward, it is clear that no engineering school can afford to limit its efforts with respect to students from underrepresented groups to post-enrollment support and retention. U. T. Dallas will broaden and deepen its recruitment efforts for graduate students beyond our current Metroplex constituency to target baccalaureate graduates from Texas colleges and universities, especially historically minority institutions. The expanded recruitment effort will be staffed and operated in the Erik Jonsson School, working closely with the office of the recently hired Vice President for Enrollment Management and the Vice President for Diversity. U.T. Dallas' efforts to involve under-represented populations in biomedical research are in keeping with the initiative set forth in the National Institute of Biomedical Imaging and Bioengineering's Strategic Plan.

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15 See National Institute of Biomedical Imaging and Bioengineering Strategic Plan I, 2006.
E. **Library** – Provide the library director’s assessment of library resources necessary for the program. Describe plans to build the library holdings to support the program.

Expansion of the collection applicable to Biomedical engineering has already been financed and documented in the MS and PhD program documents.

F. **Facilities and Equipment** – Describe the availability and adequacy of facilities and equipment to support the program. Describe plans for facility and equipment improvements/additions.

The U.T. Dallas strategic plan for institutional growth estimates that, exclusive of classroom space, the average space requirement for new faculty members is 4,000 sq ft per tenure-system faculty member. Thus, the addition of 5 new FTE faculty members will require about 20,000 gross square feet of new space (nearly all of it research and office space for faculty and research staff, although some space will be needed for administration of the program), exclusive of classroom and other space. This amount of space can be made available. At U.T. Dallas, a minimum of 10,000 sq ft, and perhaps up to 12,000 or more gross sq ft of research space, is available in the new Natural Science and Engineering Research Laboratory. An additional 5,000 to 8,000 sq ft of space can be made available in the existing Engineering Building to facilitate the program's administrative offices, i.e., department head, undergraduate student advisors, etc. Space for undergraduate laboratories can also be made available.

G. **Accreditation** – If the discipline has a national accrediting body, describe plans to obtain accreditation or provide a rationale for not pursuing accreditation.

The Accreditation Board of Engineering and Technology (ABET) is responsible for accreditation of undergraduate engineering programs in the United States.

ABET requires that “The [biomedical engineering] program must demonstrate that graduates have: an understanding of biology and physiology, and the capability to apply advanced mathematics (including differential equations and statistics), science, and engineering to solve the problems at the interface of engineering and biology; the ability to make measurements on and interpret data from living systems, addressing the problems associated with the interaction between living and non-living materials and systems.”

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16 Criteria for Accrediting Engineering Programs, ABET, Inc., 2009
AAR/1061.doc/No PDF
New Program Request Form for 
Bachelor’s and Master’s Degrees
Page 17

The U. T. Dallas baccalaureate programs in Computer Engineering, Electrical Engineering, Telecommunications Engineering, Software Engineering and Computer Science are currently accredited by ABET. The next ABET accreditation cycle for U. T. Dallas will occur in 2011–12.

ABET will not accredit an engineering program unless and until students have graduated from the program. Therefore, ABET evaluation will be requested for the baccalaureate program in biomedical engineering when students are ready to graduate.

The B.S.M.E. program at U. T. Dallas, which was new in 2008, is not yet ABET-accredited. We will request that ABET evaluate the undergraduate Mechanical Engineering program at the end of its fourth academic year, or when students are ready to graduate.

H. Evaluation – Describe the evaluation process that will be used to assess the quality and effectiveness of the new degree program.

ABET\textsuperscript{17} accreditation guidelines for engineering degree programs require comprehensive assessment of both quality and effectiveness. In the Erik Jonsson School, every course has a set of course learning outcomes (CLOs), which are the same for all instructors. The achievement of the CLOs is assessed for each class section through quantitative measures of student performance on test questions or homework problems that directly address specific CLOs.

ABET requires that each engineering degree program demonstrate that its students attain the following outcomes:
(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to design and conduct experiments, as well as to analyze and interpret data
(c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
(d) An ability to function on multidisciplinary teams
(e) An ability to identify, formulate, and solve engineering problems
(f) An understanding of professional and ethical responsibility
(g) An ability to communicate effectively
(h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
(i) A recognition of the need for, and an ability to engage in life-long learning
(j) A knowledge of contemporary issues
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

\textsuperscript{17} \url{http://www.abet.org/}
AAR/1061.doc/No PDF
In the Erik Jonsson School, each CLO in every course is mapped to one of the program outcomes (a–k). The statistics on CLO attainment gathered from a selected set of core courses are used to assess the attainment of the program outcomes.

In addition to demonstrating attainment of program-level outcomes, every ABET-accredited engineering program must define a set of program educational objectives (PEOs) and demonstrate that the alumni of the program attain the PEOs within 3–5 years after graduation.

ABET also requires that every engineering degree program demonstrate that it is engaged in continuous improvement using feedback from students, faculty, alumni, employers and industrial advisory boards. The assessment process and results must be documented in self-study reports.

In addition, all UT Dallas degree programs are reviewed at least every five years per UT Dallas Policy Memorandum 94-III.24-63 Academic Program Review. The review committee includes both external and internal members.

III. Costs and Funding

Five-Year Costs and Funding Sources - Use this table to show five-year costs and sources of funding for the program.

<table>
<thead>
<tr>
<th>Five-Year Costs</th>
<th>Five-Year Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel(^1)</td>
<td>$2.525M</td>
</tr>
<tr>
<td>Facilities and Equipment</td>
<td>$0</td>
</tr>
<tr>
<td>Library, Supplies, and Materials</td>
<td>$0</td>
</tr>
<tr>
<td>Other(^2)</td>
<td>$0.35M</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td><strong>$2.875M</strong></td>
</tr>
<tr>
<td>Reallocated Funds</td>
<td>$1M</td>
</tr>
<tr>
<td>Anticipated New Formula Funding(^3)</td>
<td>$0.857M</td>
</tr>
<tr>
<td>Special Item Funding</td>
<td>$0</td>
</tr>
<tr>
<td>Other(^4)</td>
<td>2.75M</td>
</tr>
<tr>
<td><strong>Total Funding</strong></td>
<td><strong>$4.6M</strong></td>
</tr>
</tbody>
</table>

1. 3 new T/T faculty members will be added to support the B.S.B.M.E. programs, at an average annual cost of $125,000 each. A total of 2 FTE-years of senior lecturer/part-time lecturer personnel will be added at an average annual cost of $65,000, beginning with 2 FTEs in year 1.
2. Administrative staff costs ($0.14M); travel ($0.09M); accreditation ($0.15M).
3. Indicate formula funding for students new to the institution because of the program; formula funding should be included only for years three through five of the program and should reflect enrollment projections for years three through five.
4. Designated tuition and fees, $8.56M; PUF, $10M.
Signature Page

1. Adequacy of Funding – The chief executive officer shall sign the following statement:

   I certify that the institution has adequate funds to cover the costs of the new program. Furthermore, the new program will not reduce the effectiveness or quality of existing programs at the institution.

   ____________________________  ____________________________
   Chief Executive Officer         Date

2. Board of Regents or Designee Approval – A member of the Board of Regents or designee shall sign the following statement:

   On behalf of the Board of Regents, I approve the program.

   ____________________________  ____________________________
   Board of Regents (Designee)     Date of Approval

3. Board of Regents Certification of Criteria for Commissioner of Assistant Commissioner Approval – For a program to be approved by the Commissioner or the Assistant Commissioner for Academic Affairs and Research, the Board of Regents or designee must certify that the new program meets the eight criteria under TAC Section 5.50 (b): The criteria stipulate that the program shall:

   (1) be within the institution's current Table of Programs;
   (2) have a curriculum, faculty, resources, support services, and other components of a degree program that are comparable to those of high quality programs in the same or similar disciplines at other institutions;
   (3) have sufficient clinical or in-service sites, if applicable, to support the program;
   (4) be consistent with the standards of the Commission of Colleges of the Southern Association of Colleges and Schools and, if applicable, with the standards or discipline-specific accrediting agencies and licensing agencies;
   (5) attract students on a long-term basis and produce graduates who would have opportunities for employment; or the program is appropriate for the development of a well-rounded array of basic baccalaureate degree programs at the institution;
   (6) not unnecessarily duplicate existing programs at other institutions;
   (7) not be dependent on future Special Item funding
   (8) have new five-year costs that would not exceed $2 million.

   On behalf of the Board of Regents, I certify that the new program meets the criteria specified under TAC Section 5.50 (b).

   ____________________________  ____________________________
   Board of Regents (Designee)     Date
CEP PROPOSAL – FIRST 40 PAGES OF UNDERGRADUATE CATALOG

The course description section of the catalog has already been reviewed and approved by the Senate. Please use the link below to review the catalog.

/undergrad/2010 Catalog/Front 40:
https://pluto.utdallas.edu/xythoswfs/webui/_xy-6190_1-s_tUJHmkNi

The password is CEP (case sensitive)