NEW JERSEY INSTITUTE OF TECHNOLOGY

BOARD OF TRUSTEES
PUBLIC SESSION
February 7, 2008
11:00 AM

Call to Order

1. Notice of Meeting to Public (statement to be read by the Chair, a requirement of the NJ Open Public Meeting Act)

2. Public Comments

3. Action Items
   A. Approve minutes of the November 1, 2007 meeting of the Board of Trustees
   B. Approve Sabbatical Leave applications
   C. Approve Resolution to Authorize New BA Program in Interior Design
   D. Approve Resolution to Authorize New BS and MS Program in Computing and Business
   E. Approve Resolution on Defense Logistics Agency Solicitation for Cooperative Agreement Application
   F. Approve Resolution to Authorize Exclusive License for Intellectual Property

4. Reports
   A. Update on purchase of Central High School (Robert Altenkirch)
   B. Update on status of NJIT Campus Gateway Plan (Robert Altenkirch)
   C. Hazardous waste handling policies and procedures (Henry Mauermeyer)
   D. Operating Statement Year to Date (Henry Mauermeyer)
   E. Schedule of Short Term Investments (Henry Mauermeyer)
   F. Intangible Asset Review (Donald Sebastian)
   G. Spring/Fall 08 enrollment and enrollment projections(Joel Bloom)
   H. Report on gifts and fund raising activities (Robert Altenkirch)
   I. Fund Raising Growth Strategies (Charles Dees)

5. Announcement of Next Meeting

Chair to read resolution regarding Closed Session to discuss Personnel, Real Estate and Contract Matters to be held on Thursday, April 10, 2008, 9:30 AM, Eberhardt Hall NJIT Alumni Center Board Room.

Announce next public meeting: Thursday, April 10, 2008, 11:00 AM, Eberhardt Hall NJIT Alumni Center Board Room

Adjourn Public Meeting
1. Notice of Meeting to Public
BOARD OF TRUSTEES

STATEMENT TO BE READ AT THE OPENING OF EACH
MEETING OF THE BOARD OF TRUSTEES

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"NOTICE OF THIS MEETING WAS PROVIDED TO THE PUBLIC
AS REQUIRED BY THE NEW JERSEY PUBLIC MEETING ACT, IN
THE SCHEDULE OF MEETING DATES OF THE BOARD OF
TRUSTEES OF THE NEW JERSEY INSTITUTE OF TECHNOLOGY
WHICH WAS MAILED TO THE STAR LEDGER, THE HERALD NEWS,
AND THE VECTOR ON MARCH 16, 2007. THIS SCHEDULE WAS
ALSO MAILED TO THE COUNTY CLERK ON MARCH 16, 2007 FOR
FILING WITH THAT OFFICE AND POSTING IN SUCH PUBLIC
PLACE AS DESIGNATED BY SAID CLERK."
2. Public Comments
3A. Approve Minutes of the November 1, 2007 Meeting of the Board of Trustees
NEW JERSEY INSTITUTE OF TECHNOLOGY
BOARD OF TRUSTEES
MINUTES - PUBLIC SESSION (DRAFT)
November 1, 2007

1. The meeting was called to order by Chairperson Wielkopolski, at 11:55 a.m. Other Trustees in attendance were Vice Chair Burns, and Board Members Beachem, Cistaro, DeCaprio, Garcia, Knapp, and Montalto, and Samuel, who joined the meeting telephonically at 12:30 p.m. Also in attendance were President Altenkirch, Mr. Mauermeyer, Board Treasurer, and Ms. Holly Stern, Board Secretary.

In accordance with the New Jersey Open Public Meeting Act, the Chairperson read the following statement:

“Notice of this meeting was provided to the public as required by the New Jersey Meeting Act, in the schedule of meeting dates of the Board of Trustees of New Jersey Institute of Technology which was mailed to the Star Ledger, The Herald News and Vector on March 16, 2007. The Schedule was also mailed to the City Clerk of Newark on March 16, 2007, for filing with that office and posting in such public place as designated by said Clerk.”

2. BY A MOTION DULY MADE BY DR. DE CAPRIO, SECONDED BY MR. BEACHEM AND UNANIMOUSLY PASSED, the minutes of the September 20, 2007 meeting were approved.

3. BY A MOTION DULY MADE BY MS. GARCIA, SECONDED BY MR. BEACHEM AND UNANIMOUSLY PASSED (except as noted), the Resolution to Authorize contracts with design team and construction manager for Stem Cell Facility was approved, with Mr. Burns and Mr. Knapp recusing themselves from voting on the matter.

4. Ms. Stephanie Monteiro, Class of ’08, was presented with the Board of Trustees Scholarship. Ms. Monteiro is a chemical engineering major at NJIT, with a minor in applied mathematics, and a GPA of 3.759. She interned with Schering Plough Corporation last summer, and has been offered a full time job there upon graduation. She has worked in the Office of the Vice President for Academic and Student Services. She thanked the Board in her remarks, and discussed her NJIT experience as well as her work with Schering Plough.
5. President Altenkirch reported on the status of the NJIT’s Master Planning as well as the Campus Gateway Plan. The Master Plan is proceeding, after receiving input from two town hall meetings. The final plan will come before the Board at the February meeting. With regard to the Gateway Plan, the matter is in discussions with the City of Newark. The City is finalizing their overall Master Plan for the James Street/Washington Park areas. NJIT is to be named as the redeveloper for the Gateway Plan, and Jones Lang LaSalle will market the plan to the financial markets.

6. President Altenkirch further provided an update on the Legislature’s Task Force on Higher Education and the Economy. Currently, there is not as much activity as there has been in the recent past. There remain issues as to the best means of restructuring.

7. Vice President Sebastian gave a presentation regarding research growth strategies and remarked that it is all very good news. We had one of the best years on record; in FY ’07, research expenses totaled $87.67 million, a 13% increase in spending. We’ve achieved stability in the base in funding, despite a bleak funding environment at both the state and federal levels, making this achievement even more remarkable. There are changing patterns of funding, with substantial focus upon Department of Defense, and Department of Transportation funding. Dr. Sebastian discussed the types of defense research initiatives we are involved in, as well as other areas, including the Liberty Corridor and the Newark Institute for Regenerative Medicine.

8. Treasurer Mauermeyer reported on the Operating Statement Year to Date and the Schedule of Short Term Investments. At the close of the first quarter, we are on target with all budgets; we budget on a conservative basis. On the revenue side we are generally on target for tuition receipts. While there is always a decline in enrollment from Fall to Spring, extra efforts are being made to attract new graduate and transfer students. We are posting the last of the student aid for the fall semester. As we have not completed collective bargaining, the budgetary impact cannot be finalized at this time. Chairperson Wielkopolski asked when collective bargaining will be finished. Mr. Mauermeyer replied that it is hard to say with the faculty contract, but we have or will shortly finalize most other collective bargaining contracts. President Altenkirch asked, knowing that FY ’09 will be a difficult year, what actions can we take right now? Mr. Mauermeyer replied that we need to identify areas of flexibility in positions and equipment; but the revenue side is especially critical. We should look at grants and our endowment to determine if additional student support is available to offset the unrestricted student aid budget to the extent that we can manage that, it becomes revenue. The Schedule of Investments does not reflect the purchase, in October, of the State Hotel Supply property.
9. President Altenkirch reported on the status of gifts and fundraising activity. We are well ahead of last year in cash raised, but behind in the number of donors.

10. Board Member Montalto reported on the upcoming Celebration event. We have 250 paid up attendees; 300 are needed. There are 20 tables already committed, 3 at the platinum level, 1 at the gold level and 16 at the silver level.

11. Vice President Johnson reported on the current NCAA Self Study process, and its progress. He noted that there were three subcommittees, chaired by Holly Stern, Robert English and Phyllis Bolling. This process is necessary for a successful compliance review.

12. The Chairperson announced that the next scheduled closed session would be convened on Thursday, February 7, 2008, at 9:30 AM, at Eberhardt Hall Alumni Center Board Room, to discuss personnel, real estate and contract matters. The following resolution was read and approved by all Trustees present.

WHEREAS, there are matters that require consideration by the Board of Trustees that qualify under the Open Public Meetings Act for discussion at a Closed Session;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Trustees shall have a Closed Session to discuss such matters as personnel, real estate and contract matters on Thursday, February 7, 2008 at 9:30 AM, Eberhardt Hall Board Room.

The next Public Session of the Board will take place on Thursday, February 7, 2008 at 11:00 AM, Eberhardt Hall Board Room, following the Closed Session of the Board.

The meeting was adjourned at 12:45 a.m.
3B. Approve Sabbatical Leave Applications
To: Robert A. Altenkirch  
   President

From: Priscilla P. Nelson  
   Provost

Re: Sabbatical Recommendations for AY 2008 – 2009

Date: January 14, 2008

Approximately 142 of NJIT’s tenured faculty members were eligible to apply for sabbatical leave during the next academic year. Following our standard procedure inviting proposals for sabbaticals, and career planning discussions with the department chairs and deans, I have received 18 proposals from faculty members for sabbatical leave to be taken during Academic Year 2008 – 2009. These proposals were carefully evaluated by the Institute Committee on Sabbaticals. Based upon the deans’ and the committee’s recommendations and my own review of the proposals, I am pleased to recommend that the following 16 faculty members be approved for sabbatical leave for the period indicated.

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gabrielle Esperdy</td>
<td>Associate Professor</td>
<td>AY 2008 – 2009</td>
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<tr>
<td>Christopher Funkhouser</td>
<td>Associate Professor</td>
<td>Spring 2009</td>
</tr>
<tr>
<td>Alexandros Gerbessiotis</td>
<td>Associate Professor</td>
<td>Spring 2009</td>
</tr>
<tr>
<td>Alexander Haimovich</td>
<td>Professor</td>
<td>AY 2008 – 2009</td>
</tr>
<tr>
<td>David Horntrop</td>
<td>Associate Professor</td>
<td>AY 2008 – 2009</td>
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<td>Lev Krasnoperov</td>
<td>Professor</td>
<td>AY 2008 – 2009</td>
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<td>Ali Mili</td>
<td>Professor</td>
<td>AY 2008 – 2009</td>
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<td>Durgamadhab Misra</td>
<td>Professor</td>
<td>Spring 2008</td>
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<td>Kwabena Narh</td>
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<td>Vincent Oria</td>
<td>Associate Professor</td>
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<td>Antonio De Souza Santos</td>
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<td>Julian Scher</td>
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<td>AY 2008 – 2009</td>
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<td>Richard Sher</td>
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<td>AY 2008 – 2009</td>
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<td>Michael Siegel</td>
<td>Associate Professor</td>
<td>AY 2008 – 2009</td>
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<tr>
<td>William Spillers</td>
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<td>AY 2008 – 2009</td>
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<tr>
<td>Yi Fang Wu</td>
<td>Associate Professor</td>
<td>AY 2008 – 2009</td>
</tr>
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</table>
To: Members of the Board of Trustees

From: Priscilla P. Nelson
       Provost

Re: Sabbatical Leave Recommendations for AY 2006-2007

Date: January 14, 2008

Pursuant to the Faculty Handbook and with the concurrence of Dr. Altenkirch, I am pleased to recommend that the 16 NJIT faculty members listed on the attached memo be awarded sabbatical leaves during academic year 2008-2009. A total of 18 proposals were received.

As stated in the handbook:

"The purpose of having a system of sabbatical leaves at New Jersey Institute of Technology is to increase the effectiveness of a faculty member’s university service as well as to afford them an opportunity for professional development by relieving them of all normal campus activity. This philosophy is in consonance with the University Board of Trustees endorsement which was expressed as “further evidence of the Board’s continuing interest in the professional development of the faculty."

I believe that those faculty members recommended for sabbatical leave during the academic year 2008-2009 will be enriched by this opportunity to immerse themselves in creative, scholarly, and research activities and will thus enhance not only their value to NJIT, but this university’s image as well.

The number of sabbatical leaves awarded since 1993 - 1994 is shown on the attached table.
## History of Sabbatical Leaves

<table>
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<td>AY 2007 - 2008</td>
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<td>AY 2008 - 2009</td>
<td>16</td>
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SABBATICAL PROPOSALS FOR ACADEMIC YEAR 2007 – 2008

SUMMARY

BOARD OF TRUSTEES

FEBRUARY 7, 2008

Gabrielle Esperdy – Associate Professor – NJSoA

Dr. Esperdy intends to conduct research that will investigate the emergence of critical, architectural, and scholarly interest in the commercial landscape of the United States as it developed during the 20th century. The work will initially result in two articles to be submitted to appropriate peer-reviewed journals at the end of the sabbatical period. Ultimately, she will expand the two articles into chapters for her second book tentatively entitled Architecture’s American Road Trip. She will also develop a new course on the commercial landscape that she anticipates offering during the 2009 – 2010 academic year. Dr. Esperdy’s book, Modernizing Main Street, has already been published as have several journal articles.

Christopher Funkhouser – Associate Professor – Humanities

Dr. Funkhouser proposes to complete the rough draft of his book, Reading Digital Poetry on the WWW which focuses on the process of reading poetry produced with the technologies available to authors on the World Wide Web. This work will thoroughly analyze a selection of works of digital poetry that have been produced on the WWW during the past decade, with special attention paid to developing strategies for reading what are generally considered unconventional literary works.

Alexandros Gerbessiotis – Associate Professor – Computer Science

The overall purpose of Dr. Gerbessiotis’ sabbatical leave will be to redirect some of his research efforts toward the emerging field of multicore computing systems. Currently, NJIT’s students are not trained in parallel and/or multicore computing as are students at other universities such as MIT, Georgia Tech and Rice. His research work will take place primarily at NJIT. Dr. Gerbessiotis believes that his research will focus on a new growth area with increasing future research funding that could attract more attention from prospective students and thus contribute to NJIT’s enrollment growth.
Alexander Haimovich – Professor - ECE

Dr. Haimovich will spend his sabbatical leave developing and enhancing collaborations with faculty at Princeton University in the area of information theory. This will lead to enhancements in the wireless program at NJIT by introducing information theory into the program. Dr. Haimovich has had previous research collaborations with the group at Princeton University and has now made arrangements with the group to extend the collaboration into a new area. In addition, his stay is motivated by the fact that U.S. Army CERDEC-12D has just opened a laboratory at Princeton University. His stay there will strengthen NJIT’s already strong relationship with the U.S. Army engineers.

David J. Horntrop – Associate Professor – Mathematical Sciences

During Dr. Horntrop’s sabbatical he plans to conduct research that will focus on the development of novel computational schemes for stochastic equations and the application of these techniques to problems in materials. Dr Horntrop has already published extensively on this subject and has also received numerous grants. He will continue to build upon his success thus far. He will be visiting the Department of Mathematics and Statistics at the University of Massachusetts – Amherst as well as the Institute for Mathematics and its Applications, a National Science Foundation supported research institute at the University of Minnesota – Minneapolis.

Lev Krasnoperov – Professor – Chemistry and Environmental Science

Dr. Krasnoperov will collaborate with leading research groups in the area of gas phase chemical kinetics and learn new experimental techniques. He plans to spend his sabbatical working in research laboratories at the University of Helsinki in Finland, the University of Lees in the United Kingdom and the CNRS in Orleans, France. Letters of invitation from all three research groups have already been received. It is expected that this sabbatical will lead to increased collaborations, knowledge and experience for Dr. Krasnoperov; many journal publications and conference presentations; and international visibility for NJIT.

Ali Mili – Professor – Computer Science

Dr. Mili’s current research project aims to automatically derive the function of a loop from an analysis of its source code (written in C, C++, Java, etc.) He proposes to work with the Chair of the CS Department at the University of Tunis. His deliverables are expected to include a demo-ready tool that handles loops of arbitrary size provided their body is structured as a sequential code; adapters that make the tool applicable to a set of common programming languages; and theoretical results that allow us to handle loops whose body includes conditionals. Upon his return he plans to seek research funding and/or to
explore cooperative arrangements with industrial partners to evolve the prototype into a finished product.

**Durgamadhab Misra – Professor – Electrical and Computer Engineering**

Dr. Misra plans to spend his sabbatical semester at the Center of Excellence in Nanoelectronics which is a joint center between the Indian Institute of Technology in Mumbai and the Indian Institute of Science in Bangalore. Both institutions are very prestigious; Dr. Misra will work at the IIT – Mumbai. He expects the results of this collaborative research will be a few journal papers to be written by the end of August 2009. In addition he hopes to recruit qualified graduate students for both the MS and Ph.D. programs at NJIT.

**Kwabena (Albert) Narh – Associate Professor – Mechanical Engineering**

Dr. Narh is requesting a one semester sabbatical leave to work with one of his collaborators at Kyunghee University in South Korea. Dr. Narh has a prominent presence in the field of carbon nanotube reinforced polymer nanocomposites. The sabbatical will provide him the opportunity to work with another recognized individual in the area and hopefully expand his work. Dr. Narh has developed an outline of the effort in which he will engage. The leave should result in professional development for Dr. Narh and increased visibility for NJIT.

**Vincent Oria – Associate Professor – Computer Science**

Dr. Oria plans to spend his sabbatical leave at the University of Waterloo (Canada) and the National Institute of Informatics (NII) (Tokyo, Japan). In 2005, these two universities and NJIT signed a Memorandum of Understanding with the intention of starting a tri-partite project among the three institutions. This leave will deepen the collaboration among the three institutions. In addition, Dr. Oria’s stay at NII will coincide with the visit of two of his students. The expected results of the leave are at least one proposal submitted to a major research agency and papers written with students and colleagues from the two institutions.

**Anthony De Sousa Santos – Professor – NJSoA**

Professor Santos proposes to review the historical tradition of landscape architecture in the West and develop a scheme for analyzing design principles, criteria, and practice through the 20th century; define the distinct aspects of modern architectural ideology and practice that have led to contemporary attitudes and approaches to the built form/site/landscape nexus; select, document, analyze, and critically assess a number of historical, modern, and contemporary housing designs that exemplify deliberate integration of building, landscape, and the natural environment; and advance a set of design principles for integrating architectural and landscape values with traditional environmental practices and evolving green technologies. The results of the sabbatical will be
three illustrated articles for publication in journals plus a comprehensive report in the form of a primer as well as audio visual versions in DVD format for use as educational and professional references.

Julian Scher – Associate Professor – Information Systems

Dr. Scher plans to write the manuscript for a book entitled *Tools, Methodologies, and Concepts for Utilizing Freeware and Open Source Application Software in the Creation, Editing, and Application of Digital Media*. This book will guide the reader through the design, concepts, and methodologies requisite for creating, editing, and the application of digital image and video objects and will do so solely by invoking readily and freely available freeware and open source software tools. The sabbatical will also form the basis for some professional publications, a new digital media course, and a grant proposal to enhance the understanding of the cognitive foundations of hybrid learning.

Richard Sher – Distinguished Professor – Federated History

Dr. Sher proposes to resume work he began in the early 1990s when he was chosen to edit one of a huge series of books called *The Yale Edition of the Private Papers of James Boswell*. Dr. Sher will co-edit and annotate a book concerning Boswell’s correspondence. The research will involve a trip to the National Library of Scotland as well as visits to libraries at Yale, Princeton, and New York. His work during the sabbatical is expected to lead to the book described above in about three or four years. The volume will be jointly published by Yale University Press and Edinburgh University Press.

Michael Siegel – Associate Professor – Information Systems

Dr. Siegel plans to spend his sabbatical working with colleagues at New York University’s Courant Institute of Mathematical Sciences. He also plans collaborative research with Professor Russ Caflisch at UCLA. The main purpose of the current leave is to pursue studies in theoretical and computational fluid dynamics with world class experts. He will also work on his two currently funded NSF grants. The sabbatical would further Dr. Siegel’s renown in his field and lead to greater visibility for NJIT’s research quality.

William Spillers – Distinguished Professor – Civil and Environmental Engineering

Dr. Spillers has a contract to finish a book entitled *Structural Optimization*. In addition, he will engage in the development of research proposals in several new areas that he wishes to add to his research portfolio. These research areas, especially the one related to safety/security of structures, are productive research directions and will help Dr. Spillers reinvigorate his research. He intends to submit two or three research proposals during the leave.
Yi-Fang (Brook) Wu – Associate Professor – Information Systems

Dr. Wu plans to spend the first part of her sabbatical leave completing her co-editing duties for the book entitled *Handbook of Research on Text and Web Mining Technologies*. Following the completion of that work, she expects a final notice from the publisher by January 2009 confirming that the handbook is ready for press. She also plans to do collaborative research at Yonsei University (Korea) and National Taiwan University. As a result of her work in Taiwan and Korea, she expects to complete and submit journal papers as well as proposals to the National Science Foundation.
3C. Approve Resolution to Authorize New BA Program in Interior Design
<table>
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<tr>
<th>College/School</th>
<th>New Program</th>
<th>FY08 (for Fall 08 enrollment)</th>
<th>Program Proposal Status</th>
<th>Approval Schedule</th>
<th>FY09 (for Fall 09 enrollment)</th>
<th>FY10 (for Fall 10 enrollment)</th>
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<td>New Media Business Development (BS)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Enterprise Development (MS)</td>
<td>✓ Final</td>
<td>Nov-07 Nov-07 Nov-07 Feb-08</td>
<td>Finalizing Dec-07 Apr-08 May-08 Jun-08</td>
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<tr>
<td>CCS</td>
<td>Computing and Business (BS), CS</td>
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<td>Oct-07 Oct-07 Nov-07</td>
<td>✓ ✓ Dec-07 Feb-08 Mar-08 Mar-08</td>
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<td></td>
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<td>Sep-07 Sep-07 Nov-07</td>
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<td></td>
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<td>Oct-07 Oct-07 Nov-07</td>
<td>Finalizing Dec-07 Apr-08 May-08 Jun-08</td>
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<tr>
<td></td>
<td>Business and Information Systems (MS), IS</td>
<td>✓ Final</td>
<td>Oct-07 Oct-07 Nov-07</td>
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<td></td>
<td>Computational Sciences (BS), Math</td>
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<td>Finalizing Dec-07 Apr-08 May-08 Jun-08</td>
<td></td>
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<tr>
<td></td>
<td>Biophysics (BS), PHY</td>
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<tr>
<td></td>
<td>Biochemistry (BS), CES</td>
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<tr>
<td></td>
<td>Pharmaceutical Chemistry (MS), CES</td>
<td>In Prep</td>
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<td></td>
<td>Biostatistics (MS), Math</td>
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<td>Finalizing Dec-07 Apr-08 Apr-08 Apr-08</td>
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<tr>
<td>CSLA</td>
<td>Department: Chemical Engineering to Chemical and Biomolecular Engineering</td>
<td>✓</td>
<td>Discussion NA NA Feb-08 NA NA Apr-08 Jun-08 NA NA</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Department: Industrial and Manufacturing Engineering to Industrial and Management Systems Engineering</td>
<td>✓ Final</td>
<td>NA NA Nov-07 NA NA Feb-08 Apr-08 NA NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Degree Program: Communication to Communication and Media (BS)</td>
<td>✓ Final</td>
<td>NA NA Oct-07 NA NA Dec-07 NA Mar-08 NA</td>
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</tbody>
</table>

Name Changes to be Implemented during FY08:

- Degree Program: Chemistry to Biotechnology and Materials Engineering
- Department: Chemical Engineering to Chemical and Biomolecular Engineering
- Department: Industrial and Manufacturing Engineering to Industrial and Management Systems Engineering
STATEMENT

RESOLUTION TO APPROVE THE B.A. IN INTERIOR DESIGN

The Bachelor of Arts degree in Interior Design will provide undergraduate education and training to students wishing to pursue careers in commercial interior design, display and exhibit design, hospitality design, residential interior design, theater design, space planning, light design, and interior architecture. Demand for interior designers is expected to increase over the next decade especially in health care, hotels, resorts, and restaurants. Graduates of this program will be creative thinkers with a wide knowledge base and skill set. These professionals will explore aesthetics through form, color, and space. The new program will leverage the existing architecture curriculum to provide the specialized training in the design of interior space.

The proposed program is within the mission of the university, has received favorable independent external review, has received the approval of all appropriate standing committees and the faculty as a whole, is not unduly duplicative of other programs offered in the State of New Jersey, and is currently the subject of a Program Announcement issued to institutions of higher education in the State of New Jersey. The program is expected to start with 15 students in Year 1 and grow to 120 students by Year 5. The incremental costs of the new program will be covered from the tuition and fees of the new students.
RESOLUTION TO APPROVE THE B.A. IN INTERIOR DESIGN

WHEREAS, the Board of Trustees has examined materials provided by the President of the university relative to a proposed program leading to the B.A. in Interior Design; and

WHEREAS, the Board is satisfied that the proposed program is within the mission of the university, has received favorable independent external review, is not unduly duplicative of other programs offered in the State of New Jersey and that the proposed program is currently the subject of a Program Announcement issued to institutions of higher education in the State of New Jersey, and further that the proposed program is expected to start with 15 students in Year 1 and grow to 120 students by Year 5. The incremental costs of the new program will be covered from the tuition and fees of the new students; and

WHEREAS, the Board of Trustees attests to the foregoing;

NOW THEREFORE BE IT RESOLVED, that the Board of Trustees approves the B.A. in Interior Design.

February 7, 2008
<table>
<thead>
<tr>
<th>Institution:</th>
<th>New Jersey Institute of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Program Title:</td>
<td>Interior Design</td>
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<tr>
<td>Degree Designation:</td>
<td>Bachelor of Arts in Interior Design</td>
</tr>
<tr>
<td>Degree Abbreviation:</td>
<td>B.A. in Interior Design</td>
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<tr>
<td>CIP Code and Nomenclature:</td>
<td>50.0408</td>
</tr>
<tr>
<td>Campus where the program will be offered:</td>
<td>New Jersey Institute of Technology, University Heights, Newark, NJ</td>
</tr>
<tr>
<td>Date when program will begin:</td>
<td>September 2008</td>
</tr>
<tr>
<td>List the institutions with which articulation agreements will be arranged:</td>
<td>No articulation agreement is anticipated at this stage.</td>
</tr>
</tbody>
</table>

Is licensure required of program graduates to gain employment? □ Yes X No

Will the institution seek accreditation for this program? X Yes □ No

If yes, list the accrediting organization:

Council for Interior Design Accreditation
Foundation for Interior Design Education (FIDER)

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Program Announcement Narrative

I. Objectives page 2
II. Need pages 2-4
III. Students page 5
IV. Resources pages 5-6
V. Curriculum pages 7-8
I. Objectives

The Bachelor of Arts degree in Interior Design will provide undergraduate education and training to students who wish to pursue careers in interior design. These include careers in commercial interior design, display and exhibit design, hospitality design, residential interior design, theater design, space planning, lighting design, and interior architecture.

The object of the program will be to educate students to be creative thinkers with a wide knowledge base and skill set; to be professionals exploring aesthetics through form, color, and space; and to be designers who shape space.

II. Need

II. A. Need for the Program

According to a 2004 report by the Brookings Institution, it is projected that by 2030 over 100 billion square feet of new development will be built in the United States. At the same time we will rehabilitate an almost equal amount of existing space. In short, we will either build or rehabilitate space that is equivalent to almost 90% of all space available today. Interior design professionals will be involved in the vast majority of this work.

The demand for interior designers is expected to increase by up to 17 percent over the next decade, especially in health care, hotels, resorts, and restaurants. In addition, three specific aspects of interior design are becoming increasingly important: ergonomic design, design for the elderly, and environmentally responsible (colloquially known as “green”) design. These will all contribute to a burgeoning market.

II. B. Relationship to the Institutional Master Plan

The proposal to launch a new interior design program is in keeping with the School’s planned evolution into a multi-discipline design school modeled on the Rhode Island School of Design and the College of Design at North Carolina State University. The new program will leverage the existing architecture curriculum to provide specialized training in the design of interior space. It will also contribute to the synergy anticipated with other existing and new design programs planned for the School, namely industrial design, fine arts and digital design. Together with the School of Architecture, these programs will constitute the most comprehensive design college in the state.
II. C. Relationship to Similar Programs in the State and Region

The fact that this program is housed in a School of Architecture rather than as a standalone program will have a profound effect on the curriculum. There will be an emphasis on creating interior spaces in addition to furniture layouts/plans, selection of materials and the choice of a color palette. Our program will provide graduates versed in creating whole interiors that will include the incorporation of HVAC, lighting design, ADA compliance, and spatial excitement. Sustainability, Life Cycle Assessments and Life Cycle Costing will be infused throughout. The use of Building Information Modeling will allow students to tie to databases and learn about informed decision making.

The most salient points of the program are as follows:

- There is a common first year design studio shared among students in Fine Arts, Interior Design, Digital Design and Industrial Design.

- The emphasis of the program is the making of interior spaces. The comprehensive nature of the education will allow graduates to work as full partners with the designers of buildings throughout the design process.

- The program will take full advantage of being located within one of the largest architecture schools in the country, known for its innovation and expertise.

- The Interior Design program will also take advantage of the proximity to our Industrial Design Program.

- Students will be versed in how to translate design ideas into reality. They will know about construction methods and techniques as well as scheduling and construction management.

- Students will have access to the Idea Factory. This facility will be exclusively devoted to the creation and commercial exploitation of proprietary design and intellectual property. This state-of-the-art facility will be available to students and faculty on a competitive basis. Both students and faculty benefit personally from any patents or royalties in accordance with NJIT’s intellectual property policies.

The Interior Design program at NJIT is meant to attract ambitious students who are particularly interested in the fast-paced, hands-on profession of designing and creating interior spaces. It includes particular attention to detailed design and installation at all scales and sizes of interior elements and facilities in addition to space planning, specification of finishes, and furnishing selection/specifications.

Given that we are expected to rehabilitate an enormous number of square feet by the year 2030, it is appropriate to educate professionals who are prepared to undertake this task. It is therefore logical to provide the educational programs
demanded and, specifically, to provide New Jersey residents with opportunities commensurate with the expected need for interior design professionals.

It should be noted that no state with a population greater than New Jersey's has only one accredited four-year Interior Design program. On the contrary, the other states with only one accredited program have populations no more than one-half that of New Jersey. North Carolina, which has almost as large a population as that of New Jersey, has five accredited four-year interior design programs.

There are currently three interior design programs in New Jersey listed below. Berkley College (Paramus) and Brookdale Community College offer two-year Associate in Applied Science (AAS) degree programs. Kean University currently offers the only four-year program in the state. Comparison of Interior Design Programs: New Jersey Institutions provides a detailed survey of those programs and is available upon request.

Kean University
Berkley College – Bergen Campus (Paramus)
Brookdale Community College

II. C. Distinguished Out of State Programs

There are a number of interior design programs offered at institutions outside the state of New Jersey, some of which are listed below. A more detailed survey of these programs and others can be found in the document entitled Comparison of Interior Design Programs: Peer Institutions which is available upon request.

Drexel
New York Institute of Technology (NYIT)
Pratt
Rhode Island School of Design
Michigan State University
Virginia Tech
III. Students

We propose to begin with fifteen students, to add thirty students per year for the next three years, and fifteen students in the fifth year until a steady state of one hundred and twenty students is reached in academic year 2012/2013. Anticipated enrollment from inception to steady state is as follows:

Fall 2008: 15 students
Fall 2009: 45 students
Fall 2010: 75 students
Fall 2011: 105 students
Fall 2012: 120 students

The enrollment is expected to be all full-time students. It is expected that students from other related disciplines at NJIT and the School of Architecture will enroll in some of the courses proposed for the interior design program.

IV. Resources

IV. A. Course Development

Section V. Curriculum lists the course requirements for the program, and indicates new and existing courses. The following table is a summary of new and existing courses and credits by semester. A total of 14 new courses for a total of 52 new credits will be required for the interior design program.

<table>
<thead>
<tr>
<th>YR</th>
<th>Term</th>
<th>New Courses</th>
<th>New Credits</th>
<th>Existing Courses</th>
<th>Existing Credits</th>
<th>Subtotals Courses</th>
<th>Subtotals Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fall</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>13</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Spring</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>8</td>
<td>6</td>
<td>17</td>
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<td>2</td>
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<td>Fall</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>4</td>
<td>14</td>
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<tr>
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<td>Spring</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>TOTALS</td>
<td>14</td>
<td>52</td>
<td>26</td>
<td>76</td>
<td>40</td>
<td>128</td>
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</table>
IV. B. Faculty

There are a number of faculty members in the New Jersey School of Architecture with considerable expertise in interior design. The School of Architecture is also scheduled to hire one additional tenure track Assistant Professor in Interior Design for the academic year 2008/2009.

The additional faculty needs are as follows.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>FTE</th>
<th>Adjuncts</th>
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</thead>
<tbody>
<tr>
<td>08/09 (+15 students)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>09/10 (+30 students)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10/11 (+30 students)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11/12 (+30 students)</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>12/13 (+15 students)</td>
<td>none</td>
<td></td>
</tr>
</tbody>
</table>

IV. C. Libraries and Computing Facilities

As the program grows, funds will need to be budgeted to provide additions to the library in terms of acquisitions, personnel, and space. Software licenses and computer hardware must be adequately maintained to support the teaching laboratories expected to be used by interior design students. IT support within the school should be increased to a level commensurate with that provided at other schools of architecture and design.

The Council for Interior Design Accreditation (CIDA), the accrediting body in interior design, does not require any specific number of volumes for a library but rather suggests that students should have “convenient access to a comprehensive and current range of information about interior design and relevant disciplines (for example, bound volumes, periodicals, microfilm, video, slides, electronic) and product information (bound, electronic, or on-line) and samples.”

Many of estimated requirements for books, periodicals and databases for the interior design program are already provided in the existing Littman Library. Some few titles specific to interior design will nevertheless need to be acquired.

IV. D. Classrooms and Laboratories

Additional studio space required is based on the steady state enrollment of the program (120), and the number of hot seat and dedicated seat sections required for the studio courses scheduled. A total of eight new studio spaces and one digital/computer laboratory to be shared with other design programs will be required over the period of four years.
V. Curriculum

Bachelor of Arts in Interior Design Degree Requirements:

A minimum of 128 credits will be required for the degree. Of these, a total of 52 credits would be earned through new courses specifically developed for Interior Design. The remaining 76 credits would be earned primarily in existing courses offered at the School of Architecture, but also at other colleges at NJIT or through Rutgers. A survey of existing courses relevant to the study of interior design are outlined in Potential Electives for the Interior Design Program (available upon request). Courses offered by appropriate departments at NJIT and Rutgers University-Newark would be used within the limits of the NJIT transfer policy.

The curriculum requirement for the Interior Design program is outlined below. New courses are indicated in **bold**, existing courses are indicated in regular print.

A detailed course distribution over the four-year period of study can be found in the Proposed Curriculum for the Interior Design Program at NJIT (available upon request).

**B.A. in Interior Design**  
**TOTAL CREDITS REQUIRED: 128**

- **MAJOR CORE:** 67 credits
  - DESIGN ELECTIVES:
  - GENERAL UNIVERSITY REQUIREMENTS:
  - FREE ELECTIVES: 47 credits 9 credits

- **STUDIO CORE:** 28 credits
  - Introduction to Design I (4 credits)
  - Introduction to Design II (4 credits)
  - Interior Design I (5 credits)
  - Interior Design II (5 credits)
  - Interior Design III (5 credits)
  - Collaborative Design Studio (5 credits)

- **DESIGN CORE:** 39 credits (3 credits ea.)
  - Art & Design History in Modern Context I
  - Art & Design History in Modern Context II
  - Modes of Design Communication: Digital Media
Modes of Design Communication: Traditional Media
Building & Interior Systems I
Building & Interior Systems II
Materials & Methods
Contract Documents
ARCH215 – History of Architecture I
ARCH334 – Color Theory/Electronic Color
ARCH337 – Building Information Modeling
ID201 – Human Factors/Ergonomics
ID330 – Human Ecology in Culture

DESIGN ELECTIVES: choose 6 credits (minimum)
Environments for the Aging (3)
ARCH252 – History of Architecture II (3)
ARCH381 – History of Architecture III (3)
ARCH419 – Architectural Photography (3)
ARCH432 – Post Presentation Processing (3)
ARCH51C & D – History of Modern Architecture (3)
ARCH540 – Acoustics (3)
ARCH550 – Building Economics (3)
ARCH53 – Lighting & Fixture Design (3)
ARCH554 – Video and Animation (3)
or Fine Arts, Industrial or Digital Design elective (3)

GUR: 47 credits
MATH113 – Finite Mathematics/Calculus I (4)
MATH114 – Finite Mathematics/Calculus II (4)
CS104 – Computer Programming/Graphics Problems (2)
HUM101 – English Composition I (3)
HUM102 – English Composition II (3)
HUM213 – Cultural History (3)
HUM[300+ level] – Humanities Elective (3)
HUM[300+ level] – Open Elective (3)
HUM[400+ level] – Capstone (3)
PHYS102/A – General Physics + Lab (4)
MGMT390 – Principles of Management (3)
RUTGERS – Principles of Psychology I (3)
Social Sciences [lower level] (3)
Natural Sciences (3)
Physical Education (2)

FREE ELECTIVES: (9)
Guidelines for Consultant's Report

The consultant should submit a written evaluation of the program and include a specific recommendation to the institution. The consultant may recommend:

- Approval.
- Approval upon minor modification by the institution.
- Non-approval unless major modifications are implemented.
- Non-approval for stated reasons.

PREFACE TO THE EVALUATION

This evaluation is primarily opinion based on 15 years of teaching and administration of interior design at four uniquely different interior design programs along with 15 years of discussions with colleagues at other interior design programs.

I recommend approval of the proposed program and believe you can develop one of the highest quality programs in the country based on the following strengths:

- Connection to an architecture program of very high quality. This is very important.
- Access to a large faculty pool of talented and successful architects and interior designers. Nationally, there is a severe lack of highly qualified designers interested in teaching interior design. With ready access to a huge pool of designers in the NYC metropolitan area willing to teach part-time, NJIT should be able to build a faculty that is the envy of the country.

Challenges to quality I anticipate you will encounter:

- Students.
  This is a complicated issue. There are many incredibly smart and motivated students interested in studying interior design. There are even more students interested in studying interior design who lack those qualifications. There is a general understanding among people interested in studying architecture that it will be exceptionally difficult and will require tremendous commitment. Most people do not recognize that interior design requires the same level of commitment. Based on these realities, the best interior design programs strategically restrict enrollment. I expect you will have far more demand than the planned steady state enrollment can accommodate. Consequently, you will either have to build a much larger program or you will have to develop a plan to restrict enrollment.

I have taught at schools with open enrollment and a forced change of major based on a first or second year portfolio review. I currently lead the program at Virginia Tech where we restrict enrollment for entering students. Without question, admission based on high school grades and SAT scores is the best method for controlling total enrollment.

You will likely get many poorly qualified applicants straight from high school and you must be prepared to restrict enrolment of incoming freshmen. As an urban school, you will probably also attract a large number second career students. While this is not necessarily a bad thing – older students bring more life experience to the program – older students can present a host of problems for overall program quality. They typically do not work in their design studio with classmates due to work and family commitments. A strong studio culture is as important for interior design as it is in architecture. Absenteeism, early departures, and a general lack of commitment has, in my experience, been a serious problem with students trying to balance school with the array of commitments non-traditional students must juggle.

I would never support restricting admission based on a student profile, everyone deserves the chance to earn a place in the program of their choice. However, clear advising prior to admission
is important and strict standards of quality must be enforced or you will not attract the best
students. There are already far too many interior design degree factories, so maintaining high
standards (the same standard you expect in your architecture program) is essential. Most interior
design programs fall short of this mark and that is why design firms are generally disappointed
with the pool of interior design graduates seeking work.

The proposed curriculum, administration, and pool of faculty point to a promising future for the interior
design program, but you must be diligent in your commitment to quality.

The narrative of the written report must include the following sections and answer the questions
posed:

A. Objectives

1. Describe whether or not the objectives and underlying principles of the program are
sound and clearly stated.

The objectives are straightforward and appropriate. The best interior design programs today
have the same objectives, goals, standards and expectations found in schools of
architecture. NJIT clearly has a very strong program in architecture that should be used as
the model for the interior design degree.

2. Discuss whether or not the program is consistent with the institution’s programmatic
mission and educational goals.

The mission statement for the interior design program is consistent with that of NJIT. Interior
design is a key discipline in the design of our built environment – and by association a key
part of our overall social wellbeing and economic success.

B. Need for the Program

1. Analyze the need for this program (e.g., student demand), and indicate why it is likely
or unlikely that students will be able to secure employment and/or continue advanced
study upon graduation.

Interior designers have assumed additional and more complex roles in the design and reuse
of buildings. This has created a strong demand for interior design graduates. I should note
however, that the demand is for graduates from programs with architecturally focused
curriculums. Despite the high number of interior design programs, many of them have been
slow to evolve away from their “interior decorator” roots. Placing interior design within the
context of a School of Architecture is the right decision.

We have clear evidence of the demand for the interior design major at Virginia Tech. We
have more than 200 applicants each year and we can only accept 25 students into the major.
With an average 4.07 high school GPA and 1250 SAT score, the interior design program is
the most selective major at Virginia Tech.

The proposed interior design program at NJIT should be able to meet the rigorous
expectations of contemporary design practice and once established, I would expect a very
strong demand for the degree.

2. In the case of career programs:

   → Do the results of market surveys indicate a sufficient level of student
demand to justify the creation of the proposed program? (Please explain.)
Do employment projections indicate a sufficient number of job opportunities in the region and the State to justify the creation of the program? (Please explain.)

In the currently robust economic cycle for building, interior design graduates are easily finding good job opportunities. For the past several years, 100% of the interior design graduates at Virginia Tech that have looked for work as interior designers have found work as interior designers.

Also, Interior design is more recession resistant than architecture. Office space leases are renewed on a regular basis and whether a company is expanding, contracting or holding steady, interior design services are needed to design larger, smaller, or renovate facilities.

We are also hearing from our alumni in firms across the country that growth in design firms is more robust for interior design than it is for architecture – the challenge is finding qualified applicants for the jobs available.

C. Educational Programs

1. Discuss the distribution and nature of required courses, electives, and research (if appropriate) in terms of meeting the objectives of the program. Compare and contrast the proposed curriculum with recognized programs of quality at other institutions, if appropriate.

The proposed curriculum is well structured and focused on appropriate and efficient delivery of the necessary areas of study for accreditation, professional licensing where applicable, and most importantly – success in the profession.

The sequencing of courses provides students the chance to develop creative skills without being burdened by excessive technical knowledge early in the curriculum. New layers of information are added in subsequent semesters with a logical progression toward completion of the degree. The curriculum is also structured to ensure students have the courses they need for successful summer internships during the summer between their junior and senior years in the program.

2. Are the instructional modes and credit distribution consistent with the objectives of the curriculum? (Please explain.)

The proposal closely mirrors the studio centered curriculum common to successful architecture programs around the country. High credit hour studio courses with individually assigned studio desks is the common component of successful architecture programs and is increasingly the model for success in interior design. Interior design, like architecture, is a discipline of nuance and exploration rather than facts. Development of quality and efficient work process is acquired and refined through trial and error, interaction with classmates and more advanced student peers. When students work in isolation, individuals will succeed, but overall program quality is predictably reduced.

3. Does the curriculum represent a suitable approach to professional study in the particular field, if appropriate? (Please explain.)

The curriculum reflects the demands of contemporary interior design practice. If taught with the same professional standards found in the architecture program, graduates will be highly sought and valued contributors to the profession at the highest levels.
4. Does the curriculum meet certification and/or accreditation standards, if appropriate? (Please explain.)

The curriculum is clearly structured, comprehensive, and in-line with the requirements for CIDA accreditation. (Council for Interior Design Accreditation, formerly FIDER).

5. Are the requirements for admission to the program clearly defined and appropriate to ensure a student body capable of meeting the objectives of the program, without such requirements being artificially strict, rigid, or discriminatory? (Please explain.)

Once the program reaches steady state enrollment and achieves the quality potential of the proposal, demand for admission will likely far exceed the space available. When that day arrives – perhaps sooner than you might expect – three avenues are available. Only one of the three choices is a particularly good option.

Option one, open enrollment, will require substantial new resources of faculty and space. Option two, is open enrollment with a portfolio review at the end of the first or second year and forced change of major for those below the cut line based on grades and portfolio. This option is very undesirable to the students cut after a year of hard work and expense. The final and best option for program quality is to restrict initial enrolment based on high school grades and SAT scores.

The interior design profession is far more demanding than people realize and intelligence and a strong work ethic are essential for professional success. The common misconception of interior design as professional shopping and color selection can lead to unwelcome demands from students who are not well informed and who lack the motivation and intellect to succeed. Therefore, good marketing of the program and selective admissions will ensure that you build a student body that understands what they will be studying and that have the ability to succeed.

6. Discuss whether or not standards for completion of the program are clearly defined and consistent with the objectives of the program.

The standards for completion are clearly defined and consistent with the program objectives.

7. Discuss whether or not an appropriate mechanism for transfer students to enter the program exists and comment upon the suitability of any articulation arrangements between this and other existing programs.

Depending on the eventual demand for the program – and demand tends to follow program quality – transfer applications present a unique problem. General education credits are easily transferable, but rarely are transfer students seeking advanced placement in design as good as students cultivated in house. If you are already restricting enrolment how are transfer students accepted?

At Virginia Tech, we offer freshman admission to the best 40 students from an applicant pool of about 150. We have a target freshman enrollment of about 22 students. We second choice everyone that meets the University requirements for admission. We then accept internal and external transfer students on a space available basis – about 10 per year from a pool of about 50 applicants. These students are required to take summer design studios in both summer sessions. With a grade of B+ or better in the summer, transfer students advance to the second year design studios. With grades below that level, the student may only enroll in the first year studios.

The question of how you manage transfer students is likely to be a key element in the qualitative success of the program. And frankly, there are already more than enough
mediocre interior design programs in the country. Neither the students nor the profession will benefit from a program burdened with marginally qualified students.

8. If other academic units within the university are to provide educational services to the program, describe whether or not their commitment to participate is consistent with offering a program of quality in this field.

Collaboration with other students and faculty in the School of Architecture will be a strength of the interior design program. Architects, industrial designers, and artists routinely collaborate in practice and establishing collaborative work among students will enrich programs and participants.

Collaborations are also possible throughout the University. One can’t overestimate the importance of interior design – it is the profession that gives life to the places where life happens. Whether the beauty of a place inspires a poem, or provides an environment technically sufficient to control the spread of germs in a hospital cancer center, interior design is an important profession that requires broad and deep knowledge that is gained through interaction and collaboration with others.

So, while collaboration is to be encouraged, resources from other units are not necessary for the success or implementation of the program.

9. If a program has a clinical component, discuss the adequacy of facilities and the arrangements to support the objectives of the program.

N/A

D. Students

1. Is the percentage of part-time students projected for the program consistent with the goals of the program? (Please explain.)

There was no discussion of projected numbers of part-time students. Schools in urban areas do tend to attracted change of career students that are generally unable to attend full-time. A high percentage of non-traditional students can present a challenge to overall program quality. Studio culture is extremely important in interior design (and architecture) programs. Students that work together outside of scheduled class time simply advance more quickly and to a higher level. A high percentage of non-traditional students with job and family responsibilities that prevent working with classmates nights and weekends will likely negatively impact overall quality. For this reason, I would strongly recommend seeking methods to limit the percentage of transfer and part-time students to no more than one-third of total enrollment. Interior design is not an area of study to be pursued in isolation.

2. Comment upon the adequacy of provisions made to ensure successful target population (e.g., minorities and women) participation in the program.

Though there are many successful men working in interior design, interior design students today are typically women. Despite active recruitment of male students, Virginia Tech only has 3-4 male students at any given time among 110 students of total enrollment. Located in an urban environment, NJIT might expect to have more gender balance but I would expect the gender distribution to be heavily in favor of women – perhaps 80% female. I would expect minority enrollment to be consistent with the demographic of NJIT generally.

3. Comment upon the adequacy of counseling and advisement to be provided to students enrolled in the program.
Advising is fairly straightforward. Currently the School of Architecture has an advisor in the administrative suite. Given the large number of students in the architecture major a central place for consistent advising seems to be a good idea. The interior design program as proposed is relatively small. With that in mind, it is a reasonable strategy, and the one I prefer at Virginia Tech, to have the program chair serve as the advisor for in-major questions. This advising strategy allows the program chair to maintain direct communication between students and faculty.

E. Faculty

1. Describe whether or not the faculty possess the appropriate (terminal) degrees and other academic credentials to provide a program of high quality.

IDEC (Interior Design Educators Council) is engaged in a discussion of recognized terminal degrees at various schools around the country. Interior design programs are typically housed in architecture, art, or home economics programs. The terminal degree varies with a variety of master degrees acceptable in architecture programs, Master of Fine Arts in art programs, and a PhD in the variously named home economics programs.

Nationally the most respected interior design programs are connected with schools of architecture with a wide variety of masters degrees recognized as an acceptable terminal degree. This should be viewed positively in that programs are able to build a faculty with diverse educational experience.

CIDA requires the majority of studio faculty to have a degree in interior design and NCIDQ certification. Fortunately, this standard is (or has been) loosely enforced. Many of the most inspiring and skilled design studio teachers are architects with experience designing interiors. With the steep maturity curve of interior design practice and education there is a severe national shortage of quality interior design faculty — and even fewer if the interior design degree requirement for accreditation is enforced.

To produce the high quality graduates that the design firms are desperately seeking, you must hire design faculty that understand the architectural ramifications (structure, HVAC systems, building codes, etc.) of aesthetic design decisions. If meeting this need requires hiring faculty that do not have interior design degrees or NCIDQ certification, the accreditation standard should be studied to determine the degree of latitude in faculty "qualifications." (As an example, only one of three studio faculty at Virginia Tech have a degree in interior design and he is not NCIDQ certified. The other two studio faculty do not have an interior degree, but both are architects and are NCIDQ certified.)

2. Comment upon the faculty's involvement in research, teaching, scholarship, creative activity, and community service and whether or not it is appropriate to the discipline and to the proposed program.

Scholarship and research opportunities are diverse and contribute to society and the economy in important ways. Currently, research in the area of sustainable design is the fastest growing area of exploration. Buildings and building operation contribute significantly to greenhouse gases, and environmental degradation. There are many opportunities to collaborate with industry to explore methods of achieving high quality construction with research in collaboration with industry.

3. Discuss whether or not the number of faculty and the amount of time to be devoted by each to the programs are compatible with the goal of offering a program of quality.

The proposal to hire one faculty FTE each year with a total of four FTE at steady state enrollment is adequate for a successful high quality program. At Virginia Tech we have been
running our similarly sized program with four faculty for several years with great success. You will have the advantage of a strong adjunct faculty pool and as such should be able to provide students with far greater diversity of experience.

F. Support Personnel. Discuss the adequacy of support personnel to be associated with the program, e.g., secretaries, administrative assistants, bookkeepers, technicians, etc. as appropriate.

Existing support personnel should be adequate to support the interior design program as it moves toward steady state enrollment. At full enrollment, any additional support personnel should be easily funded within the typical funding model supported through tuition.

G. Finances

1. Discuss the institution’s commitment to provide the resources necessary to guarantee a program of high quality (e.g., faculty, equipment, library support staff for the program, below-the-line support for faculty travel, research, etc.).

The funding plan for new faculty and proposed space resources should be adequate to build a high quality interior design program.

2. Discuss the possible need for significant additional financial support from the State of New Jersey.

I would not anticipate any additional state funding beyond that currently committed for new faculty.

H. Physical Facilities

1. Discuss the adequacy of laboratory, special facilities, and equipment intended to support the program and indicate if they are consistent with offering a program of high quality.

The most important need for a top quality interior design program is dedicated studio (lab) space for each student. While some schools utilize “hot desks” for studio design work, hot desks are a serious barrier to the development of a collaborative studio culture. The architecture program’s use of assigned desks with personal desktop computers required of each student is an excellent strategy for creating an environment that encourages learning between students. Other than the need for individual student work space, the work of interior design students should not add significantly to the demand on other school facilities – wood shop, library, or computer labs.

2. Comment upon the adequacy of classroom facilities.

Lecture courses for an interior design program of the proposed size can be accommodated in a single shared classroom. Existing facilities should be adequate.

3. Comment upon any evidence to suggest that an existing program at the university will be adversely affected in terms of resources by the implementation of the program under review.

An interior design program is a good bridge between architecture and industrial design. Architects design the shell of buildings that interior designers complete and industrial designers design the products that interior designers use in their work. The effect of adding an interior design program should be viewed as an important element for completing the school rather than as a competing program within the school.
4. **Comment upon the accessibility to program facilities by the handicapped.**

In the tour of the School's facilities I was told that the buildings are fully accessible.

I. **Library.** Discuss the adequacy of library holdings and other library resources available to support the program and indicate if they are consistent with offering a program of high quality.

The existing library is an outstanding facility and the current collection exceeds the resources available to most of the existing top quality interior design programs in the country. The architecture library is a strategic efficiency in the NJIT proposal to add interior design.

J. **Computer Facilities**

a. **Discuss the adequacy of computer facilities and other computer resources available to support the program and indicate if they are consistent with offering a program of quality.**

Computer facilities in the School of Architecture are very good, and perhaps more importantly the desktop computer requirement for all students reinforces learning by encouraging work in the design studio beyond scheduled class times. Studio space is generally used less when students use laptop computers that can be taken home for work during evenings and weekends.

I would expect the existing “output” labs for printing are adequate to accommodate new students in interior design.

K. **Administration**

1. **Comment upon the administrative structure of the program and indicate if it is sufficiently defined and reasonable.**

The administration seems excited and supportive of the new interior design program. Interior designers have long suffered in the shadows of architects with the work of interior designers seen as totally subordinate to the work and vision of the architect. That attitude is mostly a thing of the past and interior designers are highly valued and respected in practice.

However, to help ensure the success of the program, the administration should be mindful of the past imbalances, and always provide equal support in faculty and facilities for the interior design program.

2. **If inter-institutional or intra-institutional cooperation is involved, describe whether or not the administrative and budgetary responsibilities for the program are clearly defined and adequate.**

I could not find this topic in the proposal.

L. **Evaluation.** In what way has an appropriate mechanism been developed to evaluate the success or failure of the program?

Evaluation for the program will follow a path similar to that in the School of Architecture. The "Kepler System", developed by the School, can also be used for the Interior Design Program and measure outcomes assessment. This unique system allows for all student work to be stored and
retrieved. Thus it is possible to conduct longitudinal studies, focus teaching based on individual student evidence, provide individual student portfolios, measure teaching efficacy, and finally, assess the academic success of the program. At this point, no other interior design program has such an enviable system for outcomes assessment.

RECOMMENDATION: Approval upon minor modification by the institution.

Recommended modifications:
- Develop a clear plan for managing enrollment demand to ensure quality.
- Curriculum refinements were discussed during my campus visit with an emphasis on more fleshed out required courses and better defined elective courses for advanced study in individual areas of interest.

Note:
Since my visit, curriculum refinements have been made, they are reflected in the document sent out for state approval and they deal with the issues noted above.
January 29, 2008

RESPONSE TO THE CONSULTANT'S REPORT FOR INTERIOR DESIGN PROGRAM

Degree Name: B.A. Interior Design

Consultant's Name: Gregory Tew
Interior Design Chair
School of Architecture + Design
Virginia Polytechnic University

Consultant's Visit Date: January 11, 2007
Consultant's Report Date: January 29, 2008

Institute’s Response:

We would like to thank Greg Tew for his thorough evaluation of our proposed BA in Interior Design. We are very pleased that his report is so positive.

Mr. Tew has been the chair of the Interior Design Department at Virginia Polytechnic University for the past four years, and the an undergraduate program in Interior Design at this institution is similar to the program we are proposing for NJIT. In light of his first-hand experience, his enthusiastic comments are even more heartening. As he indicated in his report, there is a strong demand for interior design graduates. Additional feedback received from industry has also been enthusiastic, and we anticipate that this new degree will be very popular at NJIT.

Mr. Tew had raised two issues regarding the new degree. The updated Program Announcement has been revised slightly from the one passed by NJIT’s CAA and the full faculty so as to reflect one of his comments.

1. Mr. Tew commented that we should anticipate a high demand for the program and that we will need to develop a clear plan for managing enrollment. We agree with this comment and intend to do as he suggests. Planned enrollment, at this time, is for a steady state of 120.

2. Mr. Tew suggested that the curriculum be refined to better develop the required courses and to better define the elective courses. We have begun to do this and will continue to do so. An updated Program Announcement, revised to address this comment, was sent to Mr. Tew in advance of his Final Consultant Report.
Gregory Tew  
Curriculum Vitae

Personal
Office
Interior Design Program Chair  
School of Architecture + Design  
Virginia Polytechnic University  
201 Cowgill Hall (0205)  
Blacksburg, VA 24061  
540 . 230 . 9019 cell  
gtew@vt.edu

Education
1980-1982
Pratt Institute, Brooklyn, NY  
1992 MID, Master of Industrial Design  

1981-1986
Mississippi State University, Starkville, MS  
1986 BArch, Bachelor of Architecture  
Graduating Honors: 1st in class, School of Architecture  
Selected as Alumni Fellow 1995

Spring 1985
Plymouth Polytechnic, Plymouth England  
School of Architecture

Registration
Licensed Architect in Virginia (since 2005)  
National Council of Interior Design Qualification Certification (since 2005)

Academic Experience
2004 – Present
Interior Design Program Chair  
School of Architecture + Design  
Virginia Polytechnic University  
Associate Professor (with Tenure)

2001 – 2004
School of Art and Design  
Winthrop University  
Associate Professor  
Interior Design Program Coordinator (May 2002-January 2004)

2000 – 2001
School of Architecture  
Montana State University  
Adjunct Associate Professor

1994 - 1998
Interdisciplinary Design Institute  
Washington State University at Spokane  
Assistant Professor
1991 - 1994

School of Architecture
Montana State University
Assistant Professor

1993 Summer

International Academy of Merchandising and Design
Chicago, Illinois
Visiting Professor

Professional Experience
1986 - Present

Gregory Tew Design
(note: The following is a list of projects developed/produced as an independent designer. Projects include – real estate development, architecture, interior design, construction and industrial design.)

MARA
Design consultant with Kelly Archer Boat Builders
Auckland, New Zealand
Designed interior millwork for MARA – a custom 63’ sloop

521 Forest Lane
Rock Hill, SC 2002
2,200sf residence – design and construction

Rock Base Bungalow
Montana Affordable Housing Initiative
Pattern book design of an 1100sf home

Peggy Tew Residence
Brandon, MS 1999
3,400sf residence - design and construction

School Bus Stop Shelter
Moscow Mountain, Idaho 1998
32sf shed - design and construction

International Academy of Merchandising & Design
Chicago, Illinois 1993
27,000sf - interior design-space planning

UniSouth Financial Center.
Columbus, MS 1989
30,000sf branch bank and financial center

Angel. Table design. 1997

Max. Club Chair w/ Ottoman 1996

Integrated Golf Bag and Cart. 1994
Sun Mountain Sports, Missoula, MT

Gasoline taxation concept to promote conservation

Accordia. Light fixture for Koch & Lowy, 1990

Dr. PN. Office desk with credenza, 1989 Private commission

Grifo. Lighting fixture for Artemide, 1987

1998 – 1999
GGLO Architects. Seattle, WA
Project Manager: urban planning
and designer of luxury high-rise condominiums

1997 – 1999
Design Consultant
Bell Design Group, Seattle, WA
Interior design of custom yachts

1988 - 1989
Canizaro Trigiani Architects. Jackson, MS
ECCO Italian Designs, 1,000 S.F. retail store
Project Manager and Designer

1987 - 1988
Chapman Coyle Chapman Architects. Atlanta, GA
Snellville United Methodist Church, 30,000 S.F. addition
Project Manager and Designer

1986 - 1987
CMS Design. Santa Monica, CA.
Valentino, restaurant renovation
Project Manager and Designer

1986 - 1987
Boto Design. Venice, CA.
Yume-Ya Corporation, recording studios and sound stage renovation
Project Manager and Designer.

Paisley Park, recording studios and sound stages for recording artist Prince
Design team member.
Creative Activities

(note: The following list includes creative activities featured in various publications, selected for professional award recognition, and included in gallery exhibits.)

521 Forest Lane
Rock Hill, SC
Design and construction

Hoyt, Lauren. "Beauty for the ages." The Herald, Rock Hill, SC. April 8, 2003: 1D. (local newspaper)

School Bus Stop Shelter
Moscow Mountain, Idaho
Design and construction.

AIA Honor Award 1998 (Spokane Chapter)


"Un abri de bus scolaire, Idaho, Etats-Unis," l'architecture d'aujourd'hui June 2000: 65. (international design magazine)

"Bus Stop, Moscow, Idaho," Architectural Review June 2000: 77. (international design magazine)


ECCO Italian Designs
Jackson, Mississippi
Interior design and fabrication

IDEC, Selected for Show 1994 (international design honor)

AIA Honor Award 1989 (Mississippi Chapter)


SmartPump
Product design.
This project proposed a new method for gasoline taxation that would replace the controversial CAFE standard and "gas-guzzler" taxes.


SmartPump, nominated for 1994 Discover Awards by the editors of Discover magazine. (The awards program recognizes "technological innovations of our time.")
"Professor of Architecture seeks sponsor for 'smart pump' that would offer fairer gas prices," FuelLine, October 1993: 42-47. (national trade journal)


Grifo, Artemide
Product design.
Grifo is a "pin-up" lighting fixture that won a national design competition sponsored by Artemide. Artemide is the world leader in the design and manufacture of contemporary lighting.

Westweek Artemide Lighting Design Competition. 1st Place Award Winner. "Grifo" introduced at 1987 Milan furniture fair, Milan, Italy.


"New Ideas From Euroluce." Ottagono Group IV/Year 22, December 1987: 106-110. (international design magazine)


Henderson, Justin and Peter Barna. "From concept to marketplace: how to turn your fixture design ideas into manufactured products." Interiors Volume CXLVII Number 5, December 1987: 56-60. (national design magazine)


Valentino's Restaurant
Henderson, Justin. "Form and Texture add layered richness to the minimal interior architecture of Valentino’s Restaurant in Santa Monica." Interiors Volume CXLVIII Number 3, October 1988: 136-139. (national design magazine)


Reichl, Ruth. "Looks good Enough To Eat In." Los Angeles Times: Calendar February 1, 1987: 85. (regional newspaper)


Tew, Gregory. "Carpet Design." An "in kind" grant of approximately $6,500 from Shaw Industries. Shaw donated time and materials to a student project I developed focused on pattern design. The director of design at Shaw Commercial Carpet flew to Spokane and spent two days working with the students to transform abstract pattern designs into carpet patterns. Shaw then tufted samples of the carpets, and one of the students was later flown to Seattle to participate in their "Trunk Show."

Tew, Gregory and Deborah Brooks. "Virtual Vertical Studio," August 1996. $5,000 awarded by College of Agriculture and Home Economics, matched with $5,000 at Washington State University at Spokane. This grant was used to establish an internet video/audio link between the design studios at WSU Spokane and the design studios at WSU Pullman.


Tew, Gregory. "Housing Economics and the Decline of the Middle Class." ACSA Annual Meeting Proceedings 1997 (international meeting)


Published Abstracts - refereed


Tew, Gregory. "Eco-Building: Technology or Size and Planning?" Pacific West Regional IDEC Conference. (regional meeting of an international organization)

Abstracts - refereed


Invited Presentations

"Power Portfolios" Invited as a panelist to speak at a student career day hosted by Genstar in Washington, DC.


Ag Bureau of the Spokane Area Chamber of Commerce, November 22, 1996. "Look Beyond the Sticker Price: The $500,000 family Car."


School of Architecture, Mississippi State University, September 1986. "Current Work of a Recent Graduate in Los Angeles."
Awards and Honors


1998 AIA Honor Award, Spokane Chapter. School Bus Stop Shelter.

Alumni Fellow 1995, Mississippi State University, School of Architecture. The Alumni Fellows Program "recognizes alumni who have distinguished themselves in their respective careers." Each college honors one graduate each year.

SmartPump, nominated for 1994 Discover Awards by the editors of Discover magazine. The awards program recognizes "technological innovations of our time."

1993 IDEC Juried Show, Design Award. ECCO Italian Designs.

1989 AIA Honor Award, Mississippi Chapter. ECCO Italian Designs.

1st Place - Westweek Artemide Lighting Design Competition. "Grifo" introduced at 1987 Milan furniture fair, Milan, Italy.

Outstanding Achievement Award, 1986. Mississippi State University, School of Architecture. Presented to graduating student with highest academic standing.
3D. Approve Resolution to Authorize New BS and MS Program in Computing and Business
# NJIT New Academic Program Development Summary

**1/29/2008**

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<th>College/ School</th>
<th>New Program</th>
<th>FY08 (for Fall 08 enrollment)</th>
<th>Program Proposal Status</th>
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STATEMENT

RESOLUTION TO APPROVE THE B.S. AND M.S. PROGRAMS IN COMPUTING AND BUSINESS

Both the BS and the MS programs in Business and Computing will provide graduates with the appropriate computer science and business knowledge to function effectively in using, designing, building, enhancing and maintaining software systems and applications in the context of business environments such as that in the financial industry. These graduates will have a sound knowledge base in computing topics such as software design and development, data structures and algorithms, networking, databases, and web technology without the long on-the-job learning curve often encountered by new IT graduates in the business world. They will be able to integrate the knowledge from both business and computing courses and be able to design meaningful applications and systems in the business environment.

The MS in Computing and Business also fills an important educational gap for entrepreneurs who are interested in starting technology companies. Without this program, these individuals might enroll in a pure CS degree or an MBA program which would lack the essential combination of technical and business skills they will acquire from this combined degree. The MS degree prepares individuals for careers requiring advanced knowledge.

Graduates of the BS program will be well prepared to enter graduate programs such as the proposed MS in Computing and Business, our existing MS in Computer Science, or the MBA program.

The proposed programs are within the mission of the university, have received favorable independent external review, have received the approval of all appropriate standing committees and the faculty as a whole, are not unduly duplicative of other programs offered in the State of New Jersey, and have been the subjects of Program Announcements issued to institutions of higher education in the State of New Jersey. Furthermore, both the B.S. and M.S. programs in Computing and Business are expected to start with twenty-five students in Year I. After five years, we anticipate an entering class of forty first-year students. The incremental costs of the new programs will be covered from the tuition and fees of the new students.
RESOLUTION TO APPROVE THE B.S. AND M.S. PROGRAMS IN COMPUTING AND BUSINESS

WHEREAS, the Board of Trustees has examined materials provided by the President of the university relative to a proposed programs leading to the BS and MS. in Business and Computing; and

WHEREAS, the Board is satisfied that the proposed programs are within the mission of the university, have received favorable independent external review, are not unduly duplicative of other programs offered in the State of New Jersey and that the proposed programs have been the subjects of a Program Announcements issued to institutions of higher education in the State of New Jersey, and further both the B.S. and M.S. programs in Computing and Business are expected to start with twenty-five students in Year I. After five years, we anticipate an entering class of forty first-year students. The incremental costs of the new programs will be covered from the tuition and fees of the new students; and

WHEREAS, the Board of Trustees attests to the foregoing;

NOW THEREFORE BE IT RESOLVED, that the Board of Trustees approves the BS and MS in Computing and Business.

February 7, 2008
Program Announcement Narrative

- Objectives
- Need
- Student Enrollments
- Program Resources
- Curriculum
Descriptive Information

I. Objectives

The objective of the BS in Computing and Business is to give graduates appropriate computer science and business knowledge to function effectively in using, designing, building, enhancing, and maintaining software systems and applications in the context of business environments, such as the financial industry. Thus, these graduates will not have to spend a substantial time on the job learning business topics.

Students with a strong knowledge of appropriate computing topics (e.g., software design and development, data structures and algorithms, networking, databases, web technology, etc.) and relevant business topics (e.g., accounting, finance, financial products such as stocks, bonds, and options, business operations, marketing, decision support, e-commerce, etc.) will be able to find high-paying computing-related jobs in the business world.

II. Need

II. A. Need for the Program

There is an increasing push for IT (in the generic sense as used in business to mean all facets of computing) employees to be more involved in business aspects of a company and not just be managing IT resources without having a good understanding of the business. Traditional computer science and business degrees do not give the graduates enough breadth in both computer sciences and business to be effective without a protracted on-the-job learning curve as IT employees in the business world.

Thus industry wants computing and business students to have a strong business knowledge so they are ready to be hired or move into better paying and more skilled jobs than might be commanded by students with strictly computing skills. Such jobs, demanding different skills, are less likely to be outsourced as compared to low-level programming jobs. In fact, there is currently a large unmet demand for computer scientists (with or without business training). These days, we are often contacted by companies, members of our Board of Advisors, alumni and others looking to hire our graduates.

NJIT’s BS in Computing and Business graduates will find it easier to obtain jobs in financial, insurance, marketing, telecommunications, consulting, pharmaceutical, and other industries. The New York metropolitan area, where NJIT is located, is the financial capital of the world and is replete with opportunities. There is a large need for graduates in computing and business to work in these industries. Graduates with a BS in Computing and Business will be ready to work in the business and financial sectors since they will take both computer science and business courses, including ones in finance.
Business knowledge for computing professionals is especially important in this era of increased government regulations regarding control of information, such as the Sarbanes-Oxley act and HIPAA.

The BS in Computing and Business fills an important educational gap for entrepreneurs who are interested in starting technology companies. Without such a program, these individuals might otherwise enroll in a pure CS degree or an MBA program, but they would lack the essential combination of technical and business skills they would learn from the combined degree.

NJIT is also proposing a MS in Computing and Business. The BS in Computing and Business prepares individuals for careers requiring knowledge of computing and business. The MS degree, on the other hand, prepares students for careers that require advanced knowledge of both computing and business.

Graduates of BS in Computing and Business will be well prepared to obtain an MS in Computer Science, an MS in Business and Computing, or an MBA.

II. B. Relationship to the Institute Master Plans

Business management is one of the areas singled out for growth at NJIT. At the undergraduate level a degree in Computing and Business would educate students who would be successful in developing new information technology systems for the businesses, particularly in the financial fields.

II. C. Relationship to Similar Programs in the State and Region

In our review of similar programs, we only found Lehigh University with a similar BS program in Computer Science and Business.

II. D. Distinguished Programs Nationally

Computing and business degree programs, at both the undergraduate and graduate degree level, are popular in Europe, Russia, South Africa, Australia and other areas, and NJIT’s proposed undergraduate program would be one of the first in North America, joining institutions such as Lehigh University, McMaster University (Ontario), Canberra University (Australia), Northern Kentucky University, University of Hull (U.K.), and Vienna University of Technology (Austria).

III. Students

With our proximity to the financial capital of the world, students from New Jersey and the surrounding areas will find the BS in Computing and Business to be very attractive. Students will be recruited from high schools, and
transfer students from community colleges are expected to apply. NJIT's traditional methods of student recruitment will be used. We will be working with community colleges to develop articulation agreements so that transfer students can smoothly transition into the program at NJIT. In addition, the College of Computing Sciences has its own recruitment initiatives including Career Day, a yearly conference for high school teachers, both a high-school programming contest and a web design competition, and a summer program for high-school students. Moreover, the faculty and administrators involved in the program will work with NJIT's Office of Admissions to visit high schools and community colleges to publicize the opportunities available to students interested in the confluence of computer science and business.

We anticipate that we will attract 25 students in the first year. After 5 years, we foresee an entering class of about 40 first-year students and 20 students per year. These numbers are projections based on enrollment figures from a similar program at Lehigh University.

Because of the business component of the degree, we anticipate attracting many more women and possibly more underrepresented minorities to the BS in Computing and Business than we currently see in the BS in Computer Science degree.

IV. Resources to Support the Program

Most of the courses applicable to the new Computing and Business degree presently exist in NJIT's Department of Computer Science, Department of Information Systems, and School of Management. Other elective courses will be developed as the program evolves. There are sufficient faculty members involved in business, finance, and computing sciences at NJIT to support this planned course development. As enrollment grows in the Computing and Business degree, we will add faculty and staff resources to support the program.

The NJIT Computer Science department recently underwent accreditation through ABET, and the existing framework will also be used to evaluate the new program.

IV.A. Course Development

Two new courses will be developed for this degree, CS 3xx (Computer Applications in Business) and CS 49x (Capstone for Computing and Business). All other courses in the new degree presently exist in NJIT's CCS and SOM, the two colleges jointly offering this degree. In the new CS 3xx, students will learn about some key software applications and technologies and the role played by them in business. These applications technologies cover a wide spectrum of topics, including accounting and analysis, decision-making tools, XML, operating in the online world, and building a relationship with customers. This course will emphasize the interdisciplinary nature of computers and business and will serve as a springboard for other synergistic
courses in the curriculum. The new capstone course CS 49x will focus on integrating both the computing and business knowledge learned during the program to solve real-world business problems. The course would build upon the work done and lessons learned during the development and experience with the university-wide capstone course, where students work in teams to solve real industry problems. Other elective courses will be developed as the program evolves. There are sufficient faculty members involved in business, finance, and computer science at NJIT to support this planned course development.

IV.B. Faculty

There are a significant number of faculty members with credentials and research interests in business, finance, and computer science in the School of Management and the Departments of Computer Science, Information Systems, Electrical and Computer Engineering, and Mathematical Sciences.

IV.C. Libraries and Computing Facilities

Since this program will draw upon many existing courses and upon the same supplemental literature that supports other related NJIT programs, library holdings are more than adequate to support the new program. NJIT’s Van Houten Library has a collection of more than 130,000 books and subscribes to about 500 printed journals and about 13,000 electronic journals. The library’s home page provides access to the library’s online catalog and links to a wide array of information services. The library purchases between 2,500 and 3,000 new books each year. Requests for new books or journals are made through the academic department’s faculty representative to the library.

The library has a wide array of networked PCs that provide access to a large number of bibliographical databases and full-text electronic journals, for searching Internet sites, for searching each library’s on-line catalog, and access to a variety of on-line journal databases. VCR’s for viewing videocassettes reserved for courses are also available. Journal and conference literature in engineering, science, management, architecture and other subject areas is accessible through a variety of indexing and abstracting databases. Among the databases available on line are CompendexWeb (Engineering Index); ProQuest Direct (articles on business, management and industry), Applied Science and Technology Index. The library also borrows through interlibrary loan (ILL) for materials.

The libraries web site describes the services and resources more completely. Please see www.library.njit.edu.

As a technological research university, NJIT has excellent computing systems, networks and software to support this program. The Newark campus’ gigabit Ethernet network backbone connects more than 6,000 nodes in classrooms, laboratories, residence halls, faculty and staff offices, the
library, and student organization offices. Wireless access is available in over 90% of campus buildings and locations. The network provides access to a wealth of shared information services. Some of these include high-performance computing servers providing CPU cycles for simulation and computational research, disk arrays for storage of large data sets, communication servers for electronic mail and document exchange, databases, digital journal subscriptions and a virtual "Help Desk." A virtual private network combined with Internet access, plus a large ISDN modem bank extend access to campus information resources to faculty, staff and students working at home, work, any of the university's extension sites or throughout the world. Wide-area network access through NJEDge.Net (New Jersey's Higher Education Network) and the Internet provide collaboration opportunities with students, faculty, and researchers, locally, regionally, nationally, and throughout the world.

IV.D. Classrooms and Laboratories

There is a broad range of classrooms and laboratories available to offer the courses and projects in this program, including many with Internet access and multimedia facilities. Thus, no new classrooms or laboratories are specifically needed for the program.
V. Curriculum

CCS and SOM, the two colleges offering the degree, will jointly administer the BS in Computing and Business degree. The day-to-day administrative responsibilities will be handled by the Program Director, who will be jointly agreed upon by the both participating colleges. The Program Director will oversee the advisement of all students in this program, and will work closely with the current undergraduate curriculum committees of the Department of Computer Science and the School of Management, in monitoring the progress of students in the program. All students in CCS majors are required to prepare a Program of Study Form, an approved copy of which must be on file with the Program Director. The form will be prepared as early as possible in the student's career and changes are made only in consultation with the Program Director. As enrollment grows in the Computing and Business degree, we will add faculty and staff resources to support the program.

The curriculum includes almost all the core computer science and business courses in the current BS in Computer Science and BS in Business degrees. Graduates will thus have both computer science and business knowledge. Computing knowledge by itself cannot be used to solve IT problems in business. Several other computer science, information systems and business courses will also contribute to the learning outcome of using computing and business knowledge to solve real-world business problems, thus providing synergy between the computer science, information systems and business courses.

One new course that will be developed for the curriculum is Computer Applications in Business (CS 3xx), which students will take in the first semester of their junior year. In this course, students will learn about some key software applications and technologies and the role played by them in business. These applications technologies cover a wide spectrum of topics, including accounting and analysis, decision-making tools, XML, operating in the online world, and building a relationship with customers. This course will emphasize the interdisciplinary nature of computers and business and will serve as a springboard for other synergistic courses in the curriculum.

In the junior year, students will take either MIS 376 or IS 390, which will help them develop problem solving skills and solve real world problems. In IS 390, Systems Analysis and Design, students develop and design a software system to solve a real-world problem. As there are typically mainly computing science and computer engineering students in this class, the Computing and Business students will be integrated into teams with mostly technical students, and this experience will help them understand how their business and computing knowledge helps technical students solve real-world problems. In MIS 376, Information Systems and Operations Management, students work on realistic operational management problems in a team environment. While this course in the past was taken by mainly business students, the computing expertise of the Computing and Business students in MIS 376 will enable teams to incorporate more technological approaches to
the problems, thereby leading to even better solutions through the combination of computing and business knowledge. So whichever course is chosen, the student will learn of the synergy between business and computing knowledge to solve real-world problems.

In the new capstone course, CS 49x, students will be able to use the business and computing knowledge they have learned to work on actual IT projects in business. One purpose of the capstone project course is to show the students the synergy resulting from the advantage of having knowledge of both business and computer science, and how solutions for computing problems in business require both computing and business knowledge for effective design and implementation of software solutions. The experience gained from working with industry on actual business projects also will give students excellent experience that will make them more valuable as employees. For the last several years CCS has been running capstone courses in which students collaborate in teams to work on actual business problems provided by industry, and we already have a large group of industrial and government partners that participate. Many of these enterprises end up hiring the students once they graduate.

While there are other CCS and SOM courses in the degree that are not specifically identified as being synergistic in the tables below, they will still contribute significantly to the overall curriculum in complementary and interdependent ways. For example, OM 375 (Management Science), which is identified as a synergistic course, covers computing tools for analyzing and optimizing business problems using management-science algorithms. In many business settings, computing personnel are asked to build front ends to or enhance these tools, or to design and build new ones, and this requires experience with large-scale software systems and knowledge of efficient algorithms. These are the skills taught in many of the CS courses in the degree, including CS 288 (Intensive Programming Practicum) and CS 435 (Advanced Data Structures and Algorithms). Thus, although CS 288 and CS 435 are not explicitly identified as synergistic below, they provide essential computing knowledge and experience to prepare Computing and Business students to work in a business environment.
## Courses and Credits

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### Third Year – Semester 1

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<td>OM 375 Management Science</td>
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<td>Mgmt 380 Principles of E-Commerce OR IS 433 E Commerce OR Mrkt 360 Internet Marketing</td>
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<td>CS 490 Software Engineering</td>
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</tbody>
</table>

**Total Credits Required for BS in Computer Science and Business = 129**

- GUR Credits 47
- CCS Credits 31
- SOM Credits 36
- Other Required Credits 15
- **Total** 129 Credits
# PROGRAM ANNOUNCEMENT

**October 2007**

<table>
<thead>
<tr>
<th>Institution:</th>
<th>New Jersey Institute of Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Program Title:</td>
<td>MS in Computing and Business</td>
</tr>
<tr>
<td>Degree Designation:</td>
<td>Master of Science in Computing and Business</td>
</tr>
<tr>
<td>Degree Abbreviation:</td>
<td>MS Computing and Business</td>
</tr>
<tr>
<td>CIP Code and Nomenclature (if possible):</td>
<td>11.0199 Computer and Information Sciences</td>
</tr>
<tr>
<td>Campus(es) where the program will be offered:</td>
<td>Newark Campus, NJIT</td>
</tr>
<tr>
<td>Date when program will begin (month and year):</td>
<td>September 2008</td>
</tr>
<tr>
<td>List the institutions with which articulation agreements will be arranged:</td>
<td>NJIT has developed BS/MS articulation agreements with William Paterson University, New Jersey City University and Bloomfield College. We plan to extend this BS/MS program with these institutions for this MS Computing and Business Degree.</td>
</tr>
</tbody>
</table>

Is licensure required of program graduates to gain employment?  □ Yes X No

Will the institution seek accreditation for this program?  X Yes □ No

If yes, list the accrediting organization:

- Association to Advance Collegiate Schools of Business (AACSB).

**Program Announcement Narrative**

- Objectives  page(s) 2
- Need  page(s) 2-3
- Student Enrollments  page(s) 4
- Program Resources  page(s) 4-5
- Curriculum  page(s) 6
I. Objectives

The objective of the MS in Computing and Business is to give graduates appropriate computer science and business knowledge to function effectively in using, designing, building, enhancing, and maintaining software systems and applications in the context of business environments such as that in the financial industry. Thus, these graduates will not have to spend a substantial time on the job learning business topics.

Students with a strong knowledge of appropriate computing topics (e.g., software design, data structures and algorithms, networking, databases, web technology, etc.) and relevant business topics (e.g., accounting; finance; financial products such as stocks, bonds, and options; business operations; marketing, etc.) will be able to find well paying computing related jobs in the business world.

II. Need

II. A. Need for the Program

There is an increasing push for IT (in the generic sense as used in business to mean all facets of computing) employees to be more involved in business aspects of a company and not just be managing IT resources. IT employees need to have a good understanding of business fundamentals. Traditional computer science and business degrees do not give the graduates enough breadth in both computer sciences and business to be effective without a protracted on the job learning curve as IT employees in the business world.

Thus we want our MS in Computing and Business graduates to have both strong computing and business knowledge so that they are ready to be hired or move into better paying and more skilled jobs than might be commanded by students with strictly computing or business skills. Such jobs, demanding different skills, are less likely to be outsourced as compared to low-level programming jobs. In fact, there is currently a large unmet demand for computer scientists (with or without business training). These days, we are often contacted by companies, members of our Board of Advisors, alumni and others looking to hire our graduates.

NJIT's MS in Computing and Business graduates will find it easier to obtain jobs in financial, insurance, pharmaceutical and marketing companies, and in the financial parts of telecommunications, consulting, and other industries. The New York metropolitan area, where NJIT is located, is the financial capital of the world and is replete with opportunities. There is a large need for graduates in computing and business to work in the financial industry as well as in other New Jersey industries. There would be a fairly long on the job learning curve before computing graduates without business and finance
courses can understand business and finance. Graduates with a MS in Computing and Business will be ready to work in the financial and business world since they will take both computer science and business courses including business and computer science electives. Business knowledge for computing professionals is especially important in this era of increased government regulations regarding control of information, such as the Sarbanes-Oxley act and HIPAA.

The MS in Computing and Business fills an important educational gap for entrepreneurs who are interested in starting technology companies. Without such a program, these individuals might otherwise enroll in a pure CS degree or an MBA program, but they would lack the essential combination of technical and business skills they would learn from the combined degree.

The MS in Computing and Business differs from an MBA in that the former has a significant technical computing component. MBA programs typically focus primarily on business issues. While NJIT is also proposing a BS in Computing and Business, the MS in Computing and Business prepares individuals for careers requiring advanced knowledge in these two areas. Graduates of both a BS in Computing and Business and a BS in Computer Science will be well prepared to continue on for an MS in Computing and Business.

II. B. Relationship to the Institute Master Plan

Business management is one of the areas singled out for growth at NJIT. At the graduate level a degree in Computing and Business would educate students in both advanced computer science and business topics. With all the businesses in the New Jersey area with large IT needs, the graduates would provide a trained workforce to the businesses.

II. C. Relationship to Similar Programs in the State and Region

Stevens Institute of Technology has an MSIS program that has both an IT and business perspective. However, it does not have the strong computing focus that this NJIT program does. Pace University and Drexel have MSIS programs as well, but again without the computer science focus.

II. D. Distinguished Programs Nationally

In our review, there do not seem to be any computing and business MS degrees. Lehigh University has a BS degree in computing and business. A number of universities outside the U.S. have joint business and computing degrees. Simon Fraser and University, Winnipeg, Canada and Stirling University in the UK are just three examples.
III. Students

With the proximity to New York City, the financial capital of the world, we think that students from New Jersey and the surrounding areas will find the MS in Computing and Business to be very attractive. This program will also be attractive to professionals in IT who can join the program on a part-time basis.

Both domestic and international students are expected to apply. NJIT's traditional methods of student recruitment will be used. Moreover, the faculty and administrators involved in the program will work with NJIT's Office of Admissions to publicize the opportunities available to students interested in the confluence of computer science and business. We anticipate that we will attract 25 students in the first year. After 5 years, we foresee an entering class of about 40 first-year students.

Because of the business component of the degree, we anticipate attracting many more women and possibly more underrepresented minorities to the MS in Computing and Business than we currently see in the MS in Computer Science degree.

IV. Resources to Support the Program

IV.A. Course Development

All of the courses applicable to the new degree are already offered in NJIT's Computer Science Department, Information Systems Department, and the School of Management. Other elective courses will be developed as the program evolves. There are sufficient faculty members involved in business and computer science at NJIT to support this planned course development.

IV.B. Faculty

There are a significant number of faculty members with credentials and research interests in business and computer science in the School of Management and in the departments of Computer Science, Information Systems, Electrical and Computer Engineering, and Mathematical Sciences. As enrollment grows in the Computing and Business degree, we will add faculty and staff resources to support the program.

IV.C. Libraries and Computing Facilities

Since this program will draw upon many existing courses and upon the same supplemental literature that supports other related NJIT programs, library holdings are more than adequate to support the new program. NJIT's Van Houten Library has a collection of more than 130,000 books and subscribes to about 500 printed journals and about 13,000 electronic journals. The
library's home page provides access to the library's online catalog and links to a wide array of information services. The library purchases between 2,500 and 3,000 new books each year. Requests for new books or journals are made through the academic department's faculty representative to the library.

The library has a wide array of networked PCs that provide access to a large number of bibliographical databases and full-text electronic journals, for searching Internet sites, for searching each library's on-line catalog, and access to a variety of on-line journal databases. VCR's for viewing videocassettes reserved for courses are also available. Journal and conference literature in engineering, science, management, architecture and other subject areas is accessible through a variety of indexing and abstracting databases. Among the databases available on line are CompendexWeb (Engineering Index); Proquest Direct (articles on business, management and industry), Applied Science and Technology Index. The library also borrows through interlibrary loan (ILL) for materials.

The libraries web site describes the services and resources more completely. Please see www.library.njit.edu.

As a technological research university, NJIT has excellent computing systems, networks and software to support this program. The Newark campus' gigabit Ethernet network backbone connects more than 6,000 nodes in classrooms, laboratories, residence halls, faculty and staff offices, the library, and student organization offices. Wireless access is available in over 90% of campus buildings and locations. The network provides access to a wealth of shared information services. Some of these include high-performance computing servers providing CPU cycles for simulation and computational research, disk arrays for storage of large data sets, communication servers for electronic mail and document exchange, databases, digital journal subscriptions and a virtual "Help Desk." A virtual private network combined with Internet access, plus a large ISDN modem bank extend access to campus information resources to faculty, staff and students working at home, work, any of the university's extension sites or throughout the world. Wide-area network access through NJEDge.Net, (New Jersey's Higher Education Network) and the Internet provide collaboration opportunities with students, faculty, and researchers, locally, regionally, nationally, and throughout the world.

IV.D. Classrooms and Laboratories

There is a broad range of classrooms and laboratories available to offer the courses and projects in this program, including many with Internet access and multimedia facilities. Thus, no new classrooms or laboratories are specifically needed for the program.
V. Curriculum

The College of Computing Sciences and the School of Management, the two colleges offering the degree, will jointly administer the MS in Computing and Business degree. Students entering the degree program are expected to have a BS in Computer Science or equivalent, and they may have little or no prior business knowledge.

MS in Computing & Business Curriculum
(Total Credits Required 33 credits)

Core: 24 credits

Business Core
- Acct 615 – Management Accounting
- Fin 600 – Financial and Economic Environments
- HRM 601 – Organizational Behavior
- Mrkt 620 – Competing in Global Markets

Computer Science Core
- CS 610 – Data Structures and Algorithms
- CS 631 – Data Management System Design
- CS 734 – Data Mining
- CS 696 – Network Management and Security

Electives: Choose 9 credits
- CS 632 - Advanced Database System Design
- CS 652 - Computer Networks-Architectures, Protocols and Standards
- CS 656 - Internet and Higher Layer Protocols
- CS 661 – Systems Simulation
- ECE 644 - Introduction to Wireless and Personal Communications

Systems
- Fin 624 – Corporate Finance
- Fin 626 - Financial Investment Institutions
- Fin 631 - Working Capital Management and Credit Analysis
- Fin 632 - Financial Valuation of Technology-Based Companies
- Fin 634 - Mergers, Acquisitions, and Restructuring
- IS 634 - Information Retrieval
- IS 681 - Computer Security Auditing
- Mgmt 630 - Decision Analysis
- Mgmt 635 - Data Mining and Analysis
- Mgmt 650 - Knowledge Management
- MIS 625 - Management Strategies for E-Commerce
- MIS 690 - Executive Information Systems
Dr. Priscilla Nelson  
Provost and Senior Vice President for Academic Affairs  
New Jersey Institute of Technology  
University Heights 380 Fenster Hall  
Newark, NJ 07102-1982  

January 9, 2008  

Dear Dr. Nelson:  

Attached is my report on the B.S. and M.S in Computing and Business that NJIT proposes to offer. The attachment is structured following the guidelines enclosed with your letter of November 8, 2007. Because the two programs announcements have many features in common, I have chosen to present the two reports as a single document addressing both programs.  

To summarize, I enthusiastically support the creation of these programs. The final versions of the program announcements are very good and the comments that I made during my visit in December have all been addressed well. During that visit, I was able to see first-hand the enthusiasm of the College of Computing Sciences and the School of Management for this program and I am optimistic regarding its success.  

I enjoyed our meeting during my visit to campus in December and wish you and NJIT the best in the new year!  

Thank you for the opportunity to contribute to this new initiative.  

Hank Korth  
Wieseman Professor and Chair  
Department of Computer Science and Engineering  
Lehigh University  
19 Memorial Drive West  
Bethlehem, PA 18015  
hfk@lehigh.edu  
610-758-4113
I have structured my report using the template enclosed in the Provost’s letter of November 8, 2007, with my remarks in blue. (For black-and-white versions, I have also used italics for the template and non-italic for my remarks). Because many aspects of the proposed BS and MS programs are similar, I remark on both of them together in the text below.

My recommendation is approval for both programs; and I am very enthusiastic about making this recommendation as I believe the new program is a valuable new program for NJIT and for the state of New Jersey.

I base my recommendation on the revised program announcements of December 17, 2007 and on my meetings and observations during my campus visit that same day.

A. Objectives

1. Describe whether or not the objectives and underlying principles of the program are sound and clearly stated.
   Taken separately, each program’s objectives are sound and clearly stated. However, the two programs have similar objective statements. The “Needs” section of the documents of the two programs does provide a clear distinction between the two programs as does even a cursory glance at the course requirements. I recommend that NJIT be sure to make the distinct roles of these programs relative to each other (and, for the MS, relative to the MBA) as clear in any promotional material as is already the case in the “Needs” statement.

2. Discuss whether or not the program is consistent with the institution’s programmatic mission and educational goals.
   Both programs clearly related to the programmatic mission and educational goals of the institution. These programs fill an important and useful cross-disciplinary mission.

B. Need for the Program

1. Analyze the need for this program (e.g., student demand), and indicate why it is likely or unlikely that students will be able to secure employment and/or continue advanced study upon graduation.
   There is a strong demand today for computer science graduates of any sort (whether tied to business studies or not). Even stronger is the demand for computer scientists who are “cross-trained” in business, as demonstrated by my first-hand experience at Lehigh University with our Computer Science and Business major.

2. In the case of career programs:
   i. Do the results of market surveys indicate a sufficient level of student demand to justify the creation of the proposed program?
   ii. Do employment projections indicate a sufficient number of job opportunities in the region and the state to justify the creation of the program?

I have not personally done a market survey, but I can report on the success of Lehigh’s BS in Computer Science and Business. Lehigh
has had excellent success not only in jobs for those students not choosing to go to graduate school, but also in attracting fellowships, internships and other forms of support from industry. Wall Street firms generally, and the big accounting firms in particular, are seeking access to CSB students early in their undergraduate careers in hopes of recruiting them upon graduation. 
Lehigh's CSB program is an option for students to select when they apply to Lehigh. (The options include the 3 undergraduate colleges plus a select number of special programs, one of which is CSB). Our experience is that the CSB program attracts an even stronger pool of applicants than does our highly ranked engineering college as a whole.
Thus, I believe the market to be strong both for incoming students as well as for graduating students at the undergraduate level.
At the masters' level, I can point to numerous informal inquiries I have received from employers about Lehigh offering a masters version of our CSB program.
When one compares the huge potential of these programs with the relative low marginal cost of offering them, the conclusion is very positive!

C. Educational Programs

1. Discuss the distribution and nature of required courses, electives, and research (if appropriate) in terms of meeting the objectives of the program. Compare and contrast the proposed curriculum with recognized programs of quality at other institutions, if appropriate.
   While there is no direct comparison at the masters level, there is at the undergraduate level. The Lehigh CSB major is accredited by both AACSB and ABET/CSAB. It appears that the proposed BS in Computing and Business at NJIT is aiming only at AACSB. That is a good plan, at least initially, as our experience at Lehigh has shown that a dually accreditable program such as ours is tightly packed with required courses, with a need for careful planning of course sequences.

2. Are the instructional modes and credit distribution consistent with the objectives of the curriculum?

3. Does the curriculum represent a suitable approach to professional study in the particular field, if appropriate?
   The set of courses is well designed to train a student in both computing and business. The proposal notes the existing industrial partnerships used for computer science capstone projects. These relationships can be leveraged for the new program. The plan for the new capstone course is good. I would like to include a reminder here that it is important that projects for this course not be simply software-implementation projects, but should also include business-oriented needs assessment prior to implementation. That is, the industrial partner should be treated as a "client" by the students.
The section on curriculum for the BS is very good. Once NJIT has more experience with the program, I recommend publishing suggested sequences of courses for students transferring in after beginning as a pure computer-science student or a pure business student. Publishing such plans can help to increase enrollment in the program.

4. Does the curriculum meet certification and/or accreditation standards, if appropriate? As I noted earlier, the program does not currently meet ABET requirements for computer science, something that I think is quite appropriate not to meet at this point. While I am not an expert on business accreditation, I have been assured in my meetings with School of Management faculty and administration that AACSB requirements are being met.

5. Are the requirements for admission to the program clearly defined and appropriate to ensure a student body capable of meeting the objectives of the program, without such requirements being artificially strict, rigid, or discriminatory? Yes.

6. Discuss whether or not standards for completion of the program are clearly defined and consistent with the objectives of the program. They are. The course lists are clear and consistent with the program objectives.

7. Discuss whether or not an appropriate mechanism for transfer students to enter the program exists and comment upon the suitability of any articulation arrangements between this and other existing programs. Transfers into the BS should be possible both internally by NJIT students initially pursuing either a pure computer science or a pure business degree and also by students from community colleges. The program requirements are such that this is very feasible. As I noted above, I would recommend that the program develop specific examples of how this can be done because posting such examples on the Web will help in recruitment.

8. If other academic units within the university are to provide educational services to the program, describe whether or not their commitment to participate is consistent with offering a program of quality in the field. The “services” come from the two sponsors of this program: the College of Computing Sciences and the School of Management. I have met with both Deans and learned first-hand of their strong support for this program.

9. If a program has a clinical component, discuss the adequacy of facilities and the arrangements to support the objectives of the program.

D. Students

1. Is the percentage of part-time students projected for the program consistent with the goals of the program? Yes. The MS program is particularly well-suited for part-time students.

2. Comment upon the adequacy of provisions made to ensure successful target population (e.g., minorities and women) in the program.
The very nature of this program is likely to make it more attractive to female students than a traditional computer science program. The Lehigh experience in this regard supports this conclusion. Computer science has traditionally had a very low number of underrepresented minorities as compared with other disciplines on a national basis, and programs such as the two being proposed offer the promise of better results in attracting such students. I encourage NJIT to track data in this regard.

3. **Comment upon the adequacy of counseling and advisement to be provided to students enrolled in the program.**

The projected numbers of students appear reasonable. The program director may not have enough time to advise all of the students once the program is in full operation. Faculty whose home is either in computing or in business, but not both, may not have the breadth of knowledge to be effective advisors. Therefore, ongoing attention is needed to the structure of the advising process. Part of successful advising is the creation of a peer network of students in the programs. Because of the unique cross-disciplinary nature of a computing and business program, it is desirable to organize activities for all students in these programs in order to foster a sense of belonging to a group. These are not matters of immediate concern but rather matters that will arise as the program grows beyond just an entering class to a full set of 4 classes at the freshman through senior level. At the graduate level, existing advising structures in SOM and CCS should be able to meet student needs.

**E. Faculty**

1. **Describe whether or not the faculty possess the appropriate (terminal) degrees and other academic credentials to provide a program of high quality.**

2. **Comment upon the faculty’s involvement in research, teaching, scholarship, creative activity, and community service and whether or not it is appropriate to the discipline and to the proposed program.**

3. **Discuss whether or not the number of faculty and the amount of time to be devoted by each to the program are compatible with the goal offering a program of quality.**

Since this program draws on existing courses, the qualifications of the faculty are already established. The only possible issue here is whether there are enough faculty with this specific cross-disciplinary interest so that there are adequate resources for advising and for truly cross-disciplinary student projects. Based on my recent visit, it is clear that there are such faculty now, but this is a matter than needs ongoing attention as new faculty are hired. It would be ideal to hire a faculty member whose research interests are clearly in the business/computing interface.
F. Support Personnel. Discuss the adequacy of support personnel to be associated with the program, e.g., secretaries, administrative assistants, bookkeepers, technicians, etc., as appropriate.

The university has sufficient technical support to run the program. The program’s design creates little additional demand in terms of administrative resources.

G. Finances

1. Discuss the institution’s commitment to provide the resources necessary to guarantee a program of high quality (e.g., faculty, equipment, library support staff for the program, below-the-line support for faculty travel, research, etc.)

2. Discuss the possible need for significant additional financial support from the State of New Jersey.

These programs can run without significant additional financial support. However, in order to create truly excellent programs, I recommend adding a faculty member (in addition to current faculty) whose focus is on the business/computing interface. This is not needed immediately, but should be considered as enrollment expands.

H. Physical Facilities

1. Discuss the adequacy of laboratory, special facilities, and equipment intended to support the program and indicate if they are consistent with offering a program of high quality.

2. Comment upon the adequacy of classroom facilities.

3. Comment upon any evidence to suggest that an existing program at the university will be adversely affected in terms of resources by the implementation of the program under review.

4. Comment upon the accessibility to program facilities by the handicapped.

Because these programs are based on existing ones, I see no need for significant additional resources. I do see some potential cannibalization of existing programs in computing and in business. I have not reviewed physical facilities for handicapped access (nor do have any expertise in this area). I trust that there are university policies that cover this. During my visit, I saw no areas of concern.

I. Library. Discuss the adequacy of library holdings and other library resources available to support the program and indicate if they are consistent with offering a program of high quality.

Because these programs are based on existing ones, I see no need for significant additional resources.

J. Computer Facilities

1. Discuss the adequacy of computer facilities and other computer resources available to support the program and indicate if they are consistent with offering a program of high quality.

Because these programs are based on existing ones, I see no need for significant additional resources.

K. Administration

1. Comment upon the administrative structure of the program and indicate if it is sufficiently defined and reasonable.
2. If inter-institutional or intra-institutional cooperation is involved, describe whether or not the administrative and budgetary responsibilities for the program are clearly defined and adequate.

Because these programs are based on existing ones, I see no need for significant additional administration. Because not every computer scientist can step in to administer a program such as this, and likewise for business faculty, it is important that attention be paid on an ongoing basis to having "bench strength" in program leadership.

I. Evaluation. In what way has an appropriate mechanism been developed to evaluate the success or failure of the program?

The ABET-accredited program in computing already has such mechanisms in place and those mechanisms have already undergone review and approval. It is planned to use the same processes for the new program.
Response to Consultant’s Report for B.S. and M.S. Computing and Business Degrees

Degree Name(s): BS in Computing and Business
               MS in Computing and Business

Consultant’s Name: Dr. Henry Korth, Lehigh University

Consultant’s Visit Date: December 17, 2007

Date of Consultant’s Report: January 9, 2008

We would like to thank Dr. Korth for his thorough evaluation of our proposed BS and MS in Computing and Business degrees. We are very pleased that his report is so positive. Lehigh University, where Dr. Korth is the chair of the computer science department, has been offering, for the past few years, an undergraduate program similar to the BS degree we are proposing, so in light of his first-hand experience, his enthusiastic comments are even more heartening. As he indicated in his report, there is a strong demand for computer-science graduates, but even a stronger demand for computer scientists cross-trained in business. Additional feedback we have received from industry has also been enthusiastic, and we anticipate that the new degrees will be very popular at NJIT.

Dr. Korth had raised a few issues about the new degrees, and we sent Dr. Korth updated Program Announcements to address those comments before he submitted the Final Consultant Report. Thus, the updated Program Announcements differ slightly from those passed by NJIT’s CAA and the full faculty as they were revised to reflect his comments.
Henry F. Korth

Address and Phone

• Home Address: 703 Meadowcreek Circle, Lower Gwynedd, PA 19002-2073
• Home Phone: +1-215-654-0682 (voice), +1-215-654-0689 (fax), +1-215-514-6715 (mobile)
• Office Phone: +1-610-758-4113 (voice), +1-610-758-4096 (fax)
• Office Address: Department of Computer Science and Engineering, Lehigh University, 19 Memorial Drive West, Bethlehem, PA 18015
• Internet (business): hfk@lehigh.edu
• Internet (personal): hfk@acm.org

Education

• B.A., Williams College, Williamstown, MA (1977), (Phi Beta Kappa, Magna Cum Laude), Mathematics
• M.A., Princeton University, Princeton, NJ (1979), Computer Science
• M.S.E., Princeton University, Princeton, NJ (1979), Computer Science

Professional Societies

• Fellow, Association for Computing Machinery
• Fellow, IEEE
• Sigma Xi

Professional Awards

• "Most Influential Paper from Proceedings of Ten Years Ago," 21st International Conference on Very Large Data Bases, Zürich, Switzerland, awarded for the paper, "A Model of CAD Transactions," which appeared in Proc. 11th International Conference on Very Large Data Bases (VLDB), and was co-authored with F. Bancillon and W. Kim
Employment History

• Jan 2003 - present:
Lehigh University, Bethlehem, PA 18015
  – Professor, Department of Computer Science and Engineering, Jan 2003 - present
  – Chair, Department of Computer Science and Engineering, Jan 2003 - present
  – Robert W. Wieseman 1916 Endowed Engineering Chair, Oct 2004 - present
  – P.C. Rossin Senior Professor, Oct 2003 - Oct 2004
  – Applied life science and bioengineering oversight committee, Dec 2003 - present
  – Advisory council on information systems, Aug 2003 - present

• Aug 1995 - Dec 2002:
Bell Laboratories, Lucent Technologies Inc., (formerly AT&T Bell Laboratories), 600 Mountain Avenue, Murray Hill, NJ 07974
  – Positions Held:
    * Director, Database Principles Research, Jun 1997 - Dec 2003
    * Director, Technology Assessment, Lucent Software Products Group, Aug 2000 - March 2001
    * Leadership Team, Joint Development and Delivery Center, Lucent Software Products Group (formerly Kenan Systems), July 1999 - Sep 2000
    * Acting Head, Database Principles Research Department, Jan 1997 - Jun 1997
    * Member of Technical Staff, Information Sciences Research Center, Aug 1995 - Jun 1997

  – Activities:
    * Leading a team of Ph.D. researchers in Bell Labs performing research and development in various aspects of database systems, information systems and distributed systems, including XML data management, web-based data, exploiting processor architecture (cache and other features) for information management systems, main-memory database systems, real-time systems, parallel systems, data warehousing, data mining, data replication, mobile computing, billing systems, electronic commerce, and operation support systems.
    * Leading research-business cooperation between Bell Labs and the Billing and Customer Care product group. Personally performing research in database systems and distributed systems, with focus on applications in real-time systems, billing systems, web-based information systems (including XML), electronic commerce systems, operations support systems, and data warehouses.
    * Founding member of the Joint Development and Delivery Center (JDDC), an organization set up within Lucent’s Kenan Systems subsidiary (later Lucent Software Products Group) to enable the rapid transition of Bell Labs research prototypes into products in the marketplace. By combining expertise in research, development, and
business, the JDDC successfully transitioned 6 projects into products with paying customers in its first year. I served as a member of the JDDC leadership team during this time, overseeing strategy and operations, with a focus on managing the relationship between the JDDC and Bell Labs Research.

- Member of the Software Products Group Technology Assessment Team charged with seeking out and evaluating external technologies to meet current and projected business needs.

- Awards:
  * Member of team winning Bell Labs President’s Silver Award, 1998 (QTM Real-time Event Processing Engine)
  * Member of team winning Bell Labs President’s Silver Award, 1999 (DataBlitz Main-Memory Storage Manager).

- Co-inventor on eight U.S. patents.

- Sep 1991 - Aug 1995:
  Matsushita Information Technology Laboratory, Panasonic Technologies, Inc., 2 Research Way, Princeton, NJ 08540-6628

  - Positions Held
    * Vice President and Director (Oct 1992 to Aug 1995),
    * Associate Director (Jan 1992 to Sep 1992),
    * Senior Scientist (Sep 1991 to Jan 1992),

  - Activities
    * The Matsushita Information Technology Laboratory (MITL) was formed in 1991 to serve as the leading computer systems research laboratory for Matsushita Electric Industrial (better known by its brand names: Panasonic, Technics, and Quasar). I joined MITL in a senior research position and was promoted to Associate Director and, later, Director. The promotion to Director included appointment as a Vice President of Panasonic Technologies, Inc., Matsushita’s research and development corporation in the United States.
    * Personally conducted research in multibase systems, mobile computing, database user interfaces, and multimedia information systems.
    * Co-inventor on three U.S. patents.
    * Managed groups conducting research in the above topics, plus full-text indexing, multimedia indexing, optical character recognition, video servers, operating systems, and distributed computing.
    * Management responsibilities included research direction for the laboratory (which grew from a staff of 15 when I became Director to 23), budgeting, legal issues (patents, licensing, export control, etc.), and interaction with MITL’s sponsors in Japan.

- Aug 1983 - Aug 1992:
  Department of Computer Sciences, The University of Texas at Austin, Austin TX 78712-1188.

  - Associate Professor (with tenure), Sep 1989 - Aug 1992 (on leave 91-92 academic year).
- Holder of a Computer Science Faculty Fellowship, Sep 1987 - Aug 1991
- Research in numerous areas of database systems, including transaction processing, object-oriented systems, real-time database systems, nested relational databases, multidatabases, and distributed database systems
- Graduated 7 Ph.D. students, and 8 Masters thesis students
- Supervised 6 undergraduate honors projects
- Taught graduate courses in database systems, analysis of algorithms, transaction processing, object-oriented systems, and relational database theory
- Taught undergraduate courses in database systems and C programming
- Taught university-sponsored industrial short courses in database systems

- Jun 1981 - Aug 1983:
  IBM T.J. Watson Research Center, Yorktown Heights, NY 10598.
  - Research Staff Member
  - Research and development in office automation and distributed database systems.

### Professional Activities

- Associate Editor, *ACM Transactions on Database Systems*, 2004 - present
- Associate Editor, *VLDB Journal*, 1995 - 2003
- Associate Editor, *Journal on Cooperative Information Systems*, 1995-2005
- Associate Editor, *SIGMOD Record* (1990 - 1993)
- Program Committee Co-Chair:
  - International Conference on Parallel and Distributed Information Systems (PDIS), 1994
- Program Committee Associate Chair:
  - ACM SIGMOD International Conference on the Management of Data, 1997
- Program Committee Vice Chair:
  - IEEE International Conference on Data Engineering (ICDE), 2000
• Program Committee Member:
  
  
  
  – COMAD International Conference on the Management of Data, 1995
  
  – Conference on Information and Knowledge Management (CIKM), 1993
  
  
  
  – IEEE Workshop on Research Issues in Data Engineering, 1996
  
  
  – ACM/IEEE Mobicom, 1999
  
  
  – International Symposium on Databases for Parallel and Distributed Systems, 1988
  
  
  
  
  – International Workshop on the Web and Databases (WebDB), 2006

• Workshops Organized
  
  – XP 7.52 Workshop on Database Theory, Austin, Texas, 1986.
  

• Tutorial Chair: International Conference on Parallel and Distributed Information Systems (PDIS), 1996

• Tutorial Chair: ACM SIGMOD International Conference on the Management of Data, 2004

• Organizing Committee: Computing Research Association Conference, 2008

• Visiting Committee: Williams College Department of Mathematical Sciences, 1986.

• Instructor: ACM/MAA Institute for Retraining in Computer Science 1984 - 1986
  
  Taught database systems and compilers to college mathematics faculty retraining in computer science

• Instructor, IBM Technical Education Program, 1988 - 1990

  Taught undergraduate-level courses in database systems and operating systems at IBM facilities in Austin TX, Boca Raton FL, Rochester MN, Rockville MD, Tokyo Japan
• Consultancies (while on faculty of University of Texas)
  – IBM T. J. Watson Research Center
  – IBM Austin
  – Microelectronics and Computer Technology Corporation
  – Matsushita Information Technology Laboratory of Panasonic Technologies, Inc.

• Referee/reviewer for numerous journals, conferences, and funding agencies.

University Research Funding

• At University of Texas:
  – University of Texas Research Institute grant, summer 1984
    Principal Investigator: H. F. Korth
  – IBM Faculty Development Award, 1984-1986
    Principal Investigator: H. F. Korth
    Principal Investigators: H. F. Korth and M. K. Molloy
    Principal Investigators: H. F. Korth and A. Silberschatz
    Principal Investigator: H. F. Korth
    Principal Investigators: H. F. Korth and A. Silberschatz
    Principal Investigators: H. F. Korth and A. Silberschatz

• At Lehigh University

Other Activities at University of Texas:

• Served on numerous departmental committees, including: Industrial Liaison (83-84), Computing Research Review (84-86, 88-90), Salary and Evaluation Committee (84-85), Graduate Admissions Committee (85-87, chairman 86-87), Graduate Studies Committee (83-91), Undergraduate Studies Committee (87-88), Space and Housing Committee (87-88), Frontiers of Computer Science Lecture Series (88-91), Laboratory and Equipment Committee (88-90), Industrial Associates Program (89-90)
- Served on the committee that developed and organized the University of Texas Management Institute. The Institute offers a nine-month program for technical managers and is sponsored by the Department of Computer Sciences, the College of Engineering, and the College of Business Administration.

- Served as advisor for the creation of an on-line database for departmental student records.

- Served as faculty sponsor of the Ultimate Frisbee Club (1986-1991)

**Ph.D. Students**

- Lt.Col. Mark A. Roth, 1986
  “Theory of Non-First Normal Form Relational Databases”
  Current employment: Science and Technology Director, Command Control, Communications, and Intelligent Systems Directorate, U.S. Strategic Command, Offut Air Force Base, Nebraska.

- Hyoung-Joo Kim, 1988
  “Issues in Object-Oriented Database Schemas”
  Current employment: Professor, Seoul National University, Korea.

- Gregory Speegle, 1990
  “The NT/PV Model: A New Representation for Long-Duration Transaction”
  Current employment: Associate Professor, Baylor University, Waco, Texas.

- Eliezer Levy, 1991
  “Semantics-Based Recovery in Transaction Management Systems”
  Current employment: Research Staff Member, Compaq Computers, Haifa, Israel.

- Nandit Soparkar, 1993
  “Time-Constrained Transaction Management”
  Current employment: Assistant Professor, University of Michigan, Ann Arbor.

- Sharad Mehrotra, 1993 “Failure-Resilient Transaction Management in Multidatabase Systems”
  Current employment: Associate Professor, University of California, Irvine.

- Rajeev Rastogi, 1993
  “Concurrency Control in Multidatabases”
  Current employment: Director, Internet Management Research, and Distinguished Member of Technical Staff, Bell Laboratories, Murray Hill, New Jersey.
Masters thesis students:

- Chris Creswell, expected graduation 2005
- Philip Garcia, expected graduation 2005
- H. Ramananda Kedlaya, 1985
  "Relational Operating System Interface System Utilities"
- Hyoung-Joo Kim, 1985
  "Graphical Environments for Query Processing"
- Kit Hung Lou, 1985
  "Hypergraph Algorithms to Support a User-Friendly Graphical Interface for Database Applications"
- Ramakrishnan Srinivasen, 1986
  "Design and Implementation of a Translator for SQL/NF with Role Joins"
- Richard Cohen, 1987
  "NSALAN: General Purpose Servers on a Circuit-Switched Network"
- Emmilia Villarreal, 1987
  "Evaluation of an $O(N^2)$ Method for Database Query Optimization"
- Jeanne A. Kamman, 1989
  "Set-Oriented Queries in Object-Oriented Databases"
- Sheryl Walsh, 1990
  "Extensible and Incremental Statistics Maintenance for Nested Relational Databases"

Undergraduate Honors Project Students:

- Edward C. Bueché, 1987
  "Oonix: An Object-Oriented Unix Shell"
- Maurice T. Franklin, 1987
  "Oonix: An Object-Oriented Unix Shell"
- Gene C. Sheppard, 1987
  "Oonix: An Object-Oriented Unix Shell"
- Edward R. Holley, 1988
  "A Compiler and a Browser for the Oonix Project"
- Michael J. Hall, 1989
  "Expanding the Oonix Project"
- Pow-Hwee Tan, 1990
  "The Oonix-2 Project"
Patents Granted


- "Computer-Implemented Method and Apparatus for Providing a Logical Point of Access to One or More Files," U.S. Patent 7047483, Issued May 16, 2006 (with S. Acharya and V. Poosala)


- "Computer Implemented Method And Apparatus For Enhancing Access To A File," U.S. Patent 6408296, Issued June 18, 2002 (with S. Acharya and V. Poosala)


Publications

Books


Edited Book


Book Chapters


**Journal Publications**


• "Formal Aspects of Concurrency Control in Long-Duration Transaction Systems Using the NT/PV Model," *ACM Transactions on Database Systems* 19:3, pp. 492-535. (Sep 1994), (with G. Speegele)


**Conference Publications**


Workshop Publications

• " Pipelined Hash-Join on Multithreaded Architectures," Third International Workshop on Data Management on New Hardware, held in association with the 2007 ACM SIGMOD International Conference on the Management of Data. (with P. Garcia)

• "Multithreaded Architectures and the Sort Benchmark," International Workshop on Data Management on New Hardware, held in association with the 2005 ACM SIGMOD International Conference on the Management of Data. (with P. Garcia)


• “System/U: A Database System Based on the Universal Relation Assumption,” Proc. XP/1 Workshop on Relational Database Theory, (1980) (with J.D. Ullman)

Other Publications


• "The Transaction Abstraction: Fundamental Principle and Evolving System Concept," *Proc. 21st International Conference on Very Large Data Bases* (VLDB), pp. 2-6, Zürich, Switzerland, Sep 1995 (invited paper and talk).


• "A Straw Man Analysis of the Probability of Waiting and Deadlock," RJ3066 IBM Research Laboratory, San Jose, CA. (1981) (with J.N. Gray, P. Homan and R. Obermarck), also oral presentation, 5 *Berkeley Workshop on Distributed Databases and Computer Networks.*
Conference Panels

- "Database Kernel Research: What, if anything, is left to do?" IEEE International Conference on Data Engineering, Boston, MA, March 2004

- "Information, Communication, and Money: For What Can We Charge and How Can We Meter It?," (panel co-chair) 24th International Conference on Very Large Data Bases, New York, NY, Aug. 1998.


- "Mobile Computing - Fertile Research Area or Black Hole?" (panel co-chair), Nineteenth International Conference on Very Large Data Bases, Dublin, Ireland, 1993.
3E. Approve Resolution on Defense Logistics Agency Solicitation for Cooperative Agreement Application
Statement
NJIT Defense Technical Procurement Center

New Jersey Institute of Technology Defense Procurement Assistance Center is among the oldest national center celebrating 21 years serving New Jersey's small business community. To date the Center's clients have received more than $1.040 Billion in total contract awards. According to U.S. Department of Commerce's regional Input-Output Modeling Study, this figure translates into 31,200 jobs created or retained.

Our offer to the Department of Defense highlights NJIT commitment to leverage our outreach program resources to serve distressed areas within the State. As such for the past twenty years, we have operated under this cooperative agreement whereby, NJIT agrees to match the DOD dollars. For every NJIT dollar, the federal government contributes more than $1.50 in cash. NJIT obligation is supplemented with third party cash and in-kind contributions.

Our workshops attract small businesses that are capable of selling to the government as prime contractors or subcontractors. Also, we provide training to large firms and universities who require assistance in understanding changing government processes.

The Center blends NJIT technological advances by utilizing the NJIT website pod cast feature as a distant learning tool to assist our clients in their efforts to complete complex government paperwork. NJIT website is linked nationally as the premier instructional site when a company begins the Central Contractor Registration.

This agreement's duration is for a base year contract and four option years, unless modified at a later date.
Resolution to Approve  
Defense Logistics Agency Solicitation for  
Cooperative Agreement  
Application

WHEREAS, NJIT, having the legal authority to apply, has prepared a response to Defense Logistics Agency Solicitation For Cooperative Agreement Application (SCAA) issued by the Department of Defense which includes options, if the government desires to exercise, extending the terms of this agreement for four years beyond the base year 2008, and

WHEREAS, NJIT is required to match a maximum of $300,000 up to a dollar for dollar basis from the Department of Defense for the base year and for each of the following four option years if exercised, and

WHEREAS, there are funds which include third party in kind and cash contributions available to provide the required match upon application for the base and each option year agreement, and

WHEREAS, the terms of the Department of Defense program require that the Board of Trustees confirm these agreements

NOW THEREFORE BE IT RESOLVED that the Board of Trustees affirms that New Jersey Institute of Technology has the legal authority to apply for a cooperative agreement with the Department of Defense, and further, that the President is empowered to sign the application responding to Solicitation and to commit New Jersey Institute of Technology funds up to $300,000 per year for not more than five years.

I Hereby Certify That This Is A True Copy of A Resolution  
Passed By the Board of Trustees on

Holly C. Stern,  
Secretary  
Board of Trustees  
New Jersey Institute of Technology
3F. Approve Resolution to Authorize Exclusive License for Intellectual Property
STATEMENT OF INFORMATION FOR
EXCLUSIVE LICENSE OF NJIT PATENTS
January 23, 2008

Introduction

As part of its Intellectual Property ("IP") Program, NJIT assesses the commercial value of its patents to determine the most appropriate avenue to achieve a return on its investment. Options include the exclusive licensing of patent rights.

A subsidiary of Intellectual Ventures ("IV"), has expressed interest in acquiring an exclusive license to certain NJIT disclosures and pending patent applications for the life of each patent issued by the USPTO in exchange for up to $240,000 (up to $120,000 payable upon execution of the license agreement and up to $120,000 payable in increments as patents are awarded by the USPTO on these applications and disclosures), plus a percentage of net consideration derived from sublicensing activities. A list of the individual disclosures and pending patent applications follows.

As the exclusive license of the disclosures and pending patent applications for the life of the patent essentially represents a disposition of NJIT property, the Board of Trustees is being asked to approve the same. A Resolution has been prepared for consideration.

Background of Intellectual Ventures

IV is a private company founded in 2000 by Nathan Myhrvold and Edward Jung, both former executives of Microsoft. The purpose of the company is to invest in innovations and technologies across a broad spectrum of industries (i.e., technology, biotechnology, consumer electronics, nanotechnology and others). IV has also acquired inventions and related IP from a combination of individual inventors, government agencies, and universities. To date IV subsidiaries have licensed sixty-two (62) separate assets (patents, pending patent applications and invention disclosures) from NJIT for a total of up to $1,820,000 ($1,165,000 in initial payments and up to $655,000 in subsequent payments as patents issue).

To finance these purchases, IV has raised funds from such notable companies as Microsoft, Intel, Sony, Nokia, Apple, Google and eBay. Such initial investors (the exact identity and number considered confidential and not subject to disclosure) receive royalty free licenses to the entire IV portfolio in exchange for their investments. IV's business plan is to group all acquired patents into clusters of like technology and then, license the patents to potential users and/or infringers of each technology cluster. The goal is to derive more value than is likely to be attained from the licensing of any individual patent.

Current Purchase Offer

IV has presented an offer to NJIT for the exclusive license of two (2) disclosures and ten (10) pending patent applications, with right to sublicense, in return for a payment to NJIT of up to $240,000 (up to $120,000 payable upon execution of the license agreement and up to $120,000 payable in increments as patents are awarded by the USPTO on these applications and disclosures). In addition IV will pay for all on-going patent prosecution costs, including issuance fees levied by the USPTO on allowed patents. If any of the patents are sublicensed to third parties, NJIT will also receive an annual royalty payment. If authorized, the transaction will be consummated by the execution of a Patent License Agreement. During the term of the agreement, IV shall be responsible for payment of all maintenance fees that become due on any and all issued patents.
After NJIT's reimbursement of out-of-pocket marketing and patent prosecution costs (including filing and outside legal fees) the remaining net amount derived from the transaction shall be shared with the inventors pursuant to NJIT's current Patent Policy.

**List of Disclosures And Pending Patent Applications**

**Multimode Excitation of Short Pulse Launchers to Generate Localized Waves** (NJIT Invention Disclosure 06-042; Inventors: Edip Niver, Mohamed A. Salem & Aladin Hassan Kamel) NJIT Reference Number 06-042


**Frame Synchronization Using Correlation between Permuted Sequences** (Non-Provisional Patent Application Number 12/001,463; Filed 12/11/2007; Inventors: Yeheskel Bar-Ness & Miao Shi) NJIT Reference Number 07-035


**On the Sum-Rate of Broadcast Channels with Outdated 1-Bit Feedback** (Provisional Patent Application Number 60/926,326; Filed 4/26/2007; Inventors: Alexander M. Haimovich, Bo Niu, Osvaldo Simeone & Oren S. Somekh) NJIT Reference Number 07-040

**A Scalable Technique to Mitigate Low Rate Denial of Service Attacks** (Provisional Patent Application Number 60/931,862; Filed 5/25/2007; Inventors: Nirwan Ansari & Amey Bhaskar Shevtakar) NJIT Reference Number 07-049

**A Novel Algorithm of Scheduling the Active Network Measurement and Monitoring Tasks to Avoid Their Contention for Network Computation, Storage and Channel Resources, and to Shorten the Measurement Time** (Provisional Patent Application Number 60/967,046; Filed 8/31/2007; Inventors: Roberto Rojas-Cessa, Nirwan Ansari & Zhen Qin) NJIT Reference Number 07-050

**A Method for Configuring Internet Switches Based on an Input-Queued Clos-Network Fabric.** (Provisional Patent Application Number 60/933,834; Filed 6/8/2007; Inventors: Roberto Rojas-Cessa & Chuan-Bi Lin) NJIT Reference Number 07-051

**A Method for Replicating and Switching Multicast Internet Packets in Routers Using Shared Memory by Output Ports** (Provisional Patent Application Number 60/967,175; Filed 8/31/2007; Inventors: Roberto Rojas-Cessa & Ziqian Dong) NJIT Reference Number 07-052

**Histogram-pair Based Lossless Data Hiding for Binary Text Images and Binary Images** (NJIT Invention Disclosure 08-023; Inventors: Yun-Qing Shi & GuoRong Xuan) NJIT Reference Number 08-023
RESOLUTION TO AUTHORIZE EXCLUSIVE LICENSE OF UNIVERSITY INTELLECTUAL PROPERTY

WHEREAS, the Board of Trustees of New Jersey Institute of Technology is empowered to direct and control the disposition of NJIT intellectual property if deemed necessary or advisable to carry out the goals of NJIT; and

WHEREAS, the Administration recommends the exclusive licensing of certain identified NJIT Intellectual Property to a subsidiary of Intellectual Ventures for up to $240,000 (up to $120,000 payable upon execution of the license agreement and up to $120,000 payable in increments as patents are awarded by the USPTO on the identified NJIT Intellectual Property) plus an annual royalty percent of net consideration received by Intellectual Ventures's subsidiary through sublicensing; and

NOW THEREFORE BE IT RESOLVED by the Board of Trustees of New Jersey Institute of Technology that the proposed exclusive licensing of the Patents by NJIT is hereby approved; and

THEREFORE BE IT FURTHER RESOLVED by the Board of Trustees of New Jersey Institute of Technology, that the Vice President For Research & Development is hereby authorized to execute any and all agreements or documents on behalf of NJIT to consummate the licensing transaction.

Holly C. Stern, Esq.
General Counsel and
Secretary to the Board of Trustees
New Jersey Institute of Technology

Date
4A. Update on Purchase of Central High School
4B. Update on Status of NJIT Campus Gateway Plan
Gateway Plan Resolution

New Jersey Institute of Technology's Student Senate, representing the entire undergraduate student body, is proud to announce its full support of the Gateway Plan proposal.

New Jersey Institute of Technology has been rapidly improving its image throughout the great state of New Jersey and beyond. This has occurred in part because of our rising institutional ranking, our continually expanding research and development activities, and the transition of Highlander Athletics from NCAA Division 2 to Division 1. While NJIT continues to improve its reputation, there is also a pressing need to improve our surroundings by adding attractive food, residential, retail and entertainment venues in the immediate area.

NJIT's President Robert Altenkirch presented The Gateway Plan to the Student Senate on the 3rd of October, 2007. Subsequently, the Student Senate shared the plan with their constituents during a two week period and gathered feedback. The overwhelmingly positive response resulted in this resolution, endorsing the transformation of University Heights into a vibrant and engaging neighborhood, providing needed outlets for dining, shopping and recreation.

NJIT students need to live and study in an environment that is welcoming, attractive and safe. The lack of off campus destinations and neighborhood feel has been a strong issue that we, the Student Senate, have never been able to address. The Gateway Plan has fully examined and addressed these issues.

We, the students at NJIT, understand that the great city of Newark is undergoing a renaissance and believe the Gateway Plan will play a pivotal role. As the Gateway Plan proposal is being reviewed, we hope that the committee will fully consider this resolution. We believe that by approving this plan, the City of Newark will strengthen a university that has graduated and always will graduate some of the most successful inventors, quality professionals, leaders and entrepreneurs of tomorrow; NJIT is that university.

This Resolution is written on behalf of the Undergraduate Student Population at NJIT.

Sincerely,

Baker Assaf
President, NJIT Student Senate

November 2nd, 2007
November 5, 2007

Mr. Henry A. Maiermeyer
Senior Vice President and Treasurer
New Jersey Institute of Technology
University Heights
Newark, New Jersey 07102-1982

Dear Mr. Maiermeyer:

Thank you for taking the time last week to update me on the progress of the Campus Gateway Project.

As discussed, in recent months my responsibilities relating to the proposed acquisition of the Cathedral Healthcare System hospitals by Catholic Health East have, unfortunately, precluded my attendance at Project meetings. I greatly appreciate your thoughtfulness in meeting with me to bring me up to speed on the work already done and on the challenges that lie ahead. Clearly, the future of Saint Michael’s Medical Center and its neighborhood will be shaped in large measure by the success of the Campus Gateway Project, and we plan to remain very much engaged in advancing the initiative and in lending whatever support we can.

You can also be sure that our strong interest and support will continue beyond the transaction now under review by Catholic Health East. In fact, I would like to schedule a follow-up meeting with you and Alex Hatala of CHE, who is taking the lead in the proposed transition of our hospitals. CHE is poised to make a significant investment in Saint Michael’s Medical Center, and the Campus Gateway Project is an initiative of particular interest to Alex and to CHE’s senior management team.

I will be contacting your office this week to make arrangements to meet again. You can also feel free to contact me directly, at (973) 690-3561 or at terencef@chhsnj.org.

Again, thank you. I look forward to speaking with you soon.

Sincerely,

Terence French
Executive Vice President
Catholic Health & Human Services Corporation

cc: Alexander Hatala
November 26, 2007

Robert A. Altenkirch, Ph.D.
President
New Jersey Institute of Technology
University Heights
Newark, New Jersey 07102-1982

Dear Bob:

I recently had the opportunity to meet with key staff members from the City’s Economic Development Department seeking an update on the status of your redevelopment plans. I am pleased to see the progress made by your consultants as well as the synergy created by you and your team. The interconnectivity of your redevelopment plans with the City’s vision for the surrounding neighborhoods is a prime example of how when all parties work together, our vision for a great, livable city shall be realized.

The importance of your project’s success cannot be understated, and it has my full and unqualified support. The City Administration plans to recommend that the Municipal Council adopt, in the near future, a redevelopment plan for the James Street Commons Historic District, which would provide for the comprehensive rehabilitation of the neighborhood surrounding NJIT. As part of this effort, the City Administration is committed to working in partnership with NJIT in its efforts to implement critical projects that are instrumental to the area’s revitalization. Specifically, the City will work with NJIT and its partners during the planning process in its efforts to secure a redeveloper designation for lands within the redevelopment plan area. We see these processes running concurrent in order to maximize the joint opportunities we have for effective planning and timely implementation.
Undergraduate and graduate students from your university already bring life and vibrancy to your campus and this City, but this project, when realized, will help to transform Newark. NJIT’s vision for turning Newark into a true, 24/7/365 “College Town” will become a reality due to the hard work of all associated with this project.

Finally, NJIT’s willingness to forego eminent domain is a tribute to your willingness and eagerness to respect the rights of property owners in your neighborhood and integrate them into your plans. Your proposal has the potential of being a model urban redevelopment project, and I have urged my staff to expedite its analysis of this project and to ensure its success.

Sincerely,

Cory Booker
Mayor

[Stamp: RECEIVED DEC 13 2007]
Altenkirch, Robert

From:    Conrad, Nancy D  
Sent:    Monday, December 17, 2007 10:28 AM  
To:      Altenkirch, Robert  
Cc:      Conrad, Nancy D  
Subject: gateway plan

December 17, 2007

Dear Dr. Altenkirch,

On behalf of the Committee on Women's Issues I am pleased to inform you that we have reviewed the Gateway Plan and strongly endorse it. The development of the area surrounding the campus is a most positive step which allows NJIT to continue to integrate its students and staff into the greater Newark community. We look forward to celebrating the commencement of this plan.

Most sincerely yours,

N. Dean Conrad  
Chair - Committee on Women’s Issues
4C. Hazardous Waste Handling Policies and Procedures
To: Members, Board of Trustees

From: Henry A. Mauermeyer

Re: Hazardous Substance Management

January 25, 2008

NJIT, like most research universities, has many, relatively small labs for faculty to conduct their research. These are in addition to the regularly scheduled teaching labs for chemistry and chemical engineering. These labs, as well as other labs on campus use and store materials that are classified as hazardous. It is the general responsibility of the faculty to operate their labs in a safe manner, and there have not been accidents that caused injury.

The USEPA has developed regulations to more closely govern the use and storage of hazardous chemicals. Four years ago, the EPA, as part of program to review colleges and universities, inspected our labs and found a number of issues, many focused on the quantity of the substance, the quality of the containers and/or the age of chemicals in many labs. In addition, the certain chemicals were not properly stored. Although we had been working to correct these conditions, and have now done so, the EPA cited us. After protracted negotiations with the EPA, there was an agreement reached with the USEPA to settle the matter. Although NJIT does not admit to any wrong-doing, the settlement is a penalty of $31,740. In addition, NJIT will undertake to develop a “green chemistry” project to determine how college and high school curriculum might be enhanced with the use of microwave technology to reduce the production of hazardous waste and energy requirements to conduct experiments.

Given the increased regulations we have been working on a program to better ensure compliance. A University Safety Environmental Management System (USEM) has been developed. An important element of the program is the appointment of a Departmental Safety Officer (DSO) for each department. These are additional duties assigned to a staff person in the department. These personnel work with our Director of Health and Environmental Safety to review the operations of the labs and the storage of hazardous chemicals. A copy of opening chapters is attached. This will provide an understanding of the scope of the program.

The university has long had a program with respect to the disposal of hazardous materials and that was not an issue with EPA. There is a schedule of quarterly removal by a licensed service and the manifests are maintained in our files. In addition, when labs are vacated a review is done to ensure there are no residual issues.

We will continue to be vigilant with respect to lab safety. The FY 08 budget does include an additional position in this area, but given the overall uncertainty of the State budget, it has not yet been filled. We are reviewing this, and other positions as we prepare the FY 09 budget.
University Safety and Environment Management System

2008
Safety & Environmental Management System (SEMS) Manual

Table of Contents

Section 1 University Policy on Occupational Health and Safety & Environment
Section 2 Organization, Personnel and Oversight of the USEMS
Section 3 Responsibilities
Section 4 Procedures for Identifying Safety & Environmental Requirements
Section 5 Standard Operating Procedures for Assessment, Prevention and Control of Safety & Environmental Impacts
Section 6 Procedures for Incident and Non-compliance Investigations
Section 7 Procedures for Safety & Environmental Training, Awareness, and Competence
Section 8 Safety & Environmental Planning and Organizational Decision Making
Section 9 Pollution Prevention Program
Section 10 Accident Prevention & Management Processes
Section 11 Maintenance of Records & Documentation
Section 12 Continuing Program Evaluation & Improvement
Section 13 Public Involvement and Community Outreach
NJIT Safety and Environmental Policy

1.0 Purpose of the Policy
The NJIT Safety and Environmental Policy ("The Policy") is a declaration of the University’s commitment to conduct operations in a safe manner and protect the environment per the Board of Trustees policy. It serves as the foundation upon which NJIT carries out its academic mission and operate its facilities so that its students, faculty, staff, and the general public are protected from and adverse impacts to the environment are minimized. It contains several important guiding principles that drive the development and implementation and maintenance of the University Safety & Environmental Management System (USEMS). NJIT recognizes the unique interrelationship of campus safety and environmental protection and has developed an integrated management system. The Policy is reproduced in Exhibit 1.

2.0 Communicating the Policy
The Policy will be widely communicated internally and externally. The Office of the Senior Vice President for Administration and Treasurer will use several outlets and methods of communicating the policy including:

- Publish the policy on the Official Catalog of University Policies webpage
- Post the policy on the University Environmental Health and Safety webpage.
- Publish the policy in the Employee Handbook
- Publish the policy in the university newsletter.
- Post the policy on bulletin boards throughout the campus.
- Include the policy in new student orientation materials.
- Discuss the policy at appropriate NJIT forums, e.g. Committee on Academic Affairs.
- Include the policy statement in University Safety and Environmental Management System (USEMS) staff training.

The methods of communicating the NJIT Policy to external stakeholders are described in Section 13 Public Involvement and Community Outreach of this USEMS Manual.

3.0 Updating the Policy
The Policy will need to be updated to reflect the University’s continual commitment to safety and the environment and incorporate changes in university programs and activities, external laws and regulations and current “best practices” that may emerge. The USEMS Advisory Committee in concert with the University Safety and Environmental Management System Team will conduct a formal review of the Policy on a frequency of no less than 3 years to determine if any revisions are necessary.
This policy review will take into account any new or changed operations or activities on the campus and any new environmental or safety issues of concern. The USEMS Advisory Committee will forward any recommendations to the Senior Vice President for Administration and Treasurer for review. After this review the Senior Vice President for Administration and Treasurer will forward the revised Policy recommendations to the senior university staff for their review and approval.

The Office of the Senior Vice President for Administration and Treasurer will be responsible for communicating the revised policy statement throughout the university as discussed above.
Organization, Personnel and Oversight of the University Safety and Environmental Management System

1.0 Organization of the NJIT
University Safety and Environmental Management System (USEMS)

1.1 The organization of the NJIT University Safety and Environmental Management System (USEMS) consists of a number of university management, faculty, and staff who have made a commitment to work together to support and implement the NJIT policy on occupational safety and the environmental. As part of recent safety reviews and environmental audits conducted on behalf of the university, departments, other groups and activities and that have or could have impact or influence on safety and environmental activities at the university have been identified.

1.2 Individuals from each of these functions having been designated, along with the Department Environmental Safety and Health Officers (DESHO), have been selected to be a part of the NJIT USEMS Team. The USEMS Team will conduct its duties and responsibilities under the overall direction of the University Safety and Environmental Management System Director. The organizational reporting relationships of the USEMS Team and University Safety and Environmental Management System Director are shown on the next page in Exhibit 2-1. An USEMS Advisory Committee and a support group of outside vendors, contractors and service providers referred to as USEMS participants has also been established as part of the NJIT USEMS Organization.

1.3 The University Safety and Environmental Management System Director has overall responsibility for coordinating and implementing the environmental, health and safety programs and compliance with federal, state and local safety and environmental laws and regulations applicable to NJIT. The USEMS Director is appointed by the Senior Vice President and Treasurer.
Exhibit 2-1

NJIT
New Jersey's Science & Technology University

ORGANIZATIONAL REPORTING of USEMS FUNCTION at NJIT

President & Senior Staff

Senior VP for Administration and Treasurer

Department of Environmental Health and Safety

SEMS Team
Associate Treasurer
Director Environmental Health & Safety
Department Safety Officers, Associate VP Facilities Mgmt.

Operating Departments

Management Advisory Committee
Provost, Sr. VP for Admin. & Treasurer,
VP of Research, VP Human Resources,
General Counsel, Deans, Associate Treasurer
NEW JERSEY INSTITUTE OF TECHNOLOGY
STATEMENT OF CURRENT FUND REVENUES AND EXPENDITURES
FOR THE SIX MONTHS ENDED DECEMBER 31, 2007
(dollars in thousands)

<table>
<thead>
<tr>
<th>REVENUES</th>
<th>BUDGET</th>
<th>AMOUNT</th>
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<th>UNRESTRICTED YEAR TO DATE</th>
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<td>Appropriations, Contracts, Gifts</td>
<td>$82,002</td>
<td>$40,229</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Other sources</td>
<td>$7,508</td>
<td>$3,882</td>
<td>52%</td>
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<td></td>
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<td>Allocated Balances</td>
<td>$3,930</td>
<td>$1,733</td>
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</tr>
<tr>
<td></td>
<td>64,600</td>
<td>30,799</td>
<td>28,254</td>
<td>TOTAL</td>
<td>189,555</td>
<td>135,331</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Auxiliary Enterprises</td>
<td>$11,372</td>
<td>$10,133</td>
<td>89%</td>
</tr>
<tr>
<td></td>
<td>64,600</td>
<td>30,799</td>
<td>28,254</td>
<td>TOTAL REVENUES</td>
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<td>145,464</td>
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<td>EXPENDITURES</td>
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<td>Educational and General</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Instruction</td>
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<td>Research</td>
<td>$6,500</td>
<td>$3,643</td>
<td>56%</td>
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<td></td>
<td></td>
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<td></td>
<td>Public Service</td>
<td>$3,100</td>
<td>$1,695</td>
<td>55%</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>Academic Support</td>
<td>$19,700</td>
<td>$9,104</td>
<td>46%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Student Services</td>
<td>$11,950</td>
<td>$6,215</td>
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</tr>
<tr>
<td></td>
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<td>Institutional Support</td>
<td>$25,700</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Operation and Maintenance of Physical Plant</td>
<td>16,824</td>
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<td>42%</td>
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<td>Financial Aid to Students</td>
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<td>$8,111</td>
<td>52%</td>
</tr>
<tr>
<td></td>
<td>64,600</td>
<td>30,799</td>
<td>28,254</td>
<td>TOTAL EDUCATIONAL &amp; GENERAL</td>
<td>177,235</td>
<td>83,123</td>
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<tr>
<td></td>
<td></td>
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<td>TRANSFERS</td>
<td>$12,320</td>
<td>$6,138</td>
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<tr>
<td></td>
<td>64,600</td>
<td>30,799</td>
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<td>TOTAL</td>
<td>189,555</td>
<td>89,261</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Auxiliary Enterprises</td>
<td>$6,122</td>
<td>$3,153</td>
<td>52%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Auxiliary Transfers</td>
<td>$5,250</td>
<td>$2,630</td>
<td>50%</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td>TOTAL AUXILIARY</td>
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<td>$5,783</td>
<td>51%</td>
</tr>
<tr>
<td></td>
<td>64,600</td>
<td>30,799</td>
<td>28,254</td>
<td>TOTAL EXPENDITURES &amp; TRANSFERS</td>
<td>200,927</td>
<td>95,044</td>
<td>47%</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td>EXCESS OF REVENUES OVER EXPENDITURES AND TRANSFERS</td>
<td>$0</td>
<td>$50,420</td>
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# NEW JERSEY INSTITUTE OF TECHNOLOGY
## EXPENSE REPORT
### FOR THE SIX MONTHS ENDED DECEMBER 31, 2007
(dollars in thousands)

<table>
<thead>
<tr>
<th></th>
<th>CURRENT MONTH AMOUNT</th>
<th>YEAR TO DATE ACTUAL</th>
<th>BUDGET</th>
<th>ACTUAL YEAR TO DATE</th>
<th>INCLUDES ENCUMBRANCES PRIOR YEAR</th>
<th>CURRENT YEAR</th>
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<td><strong>ACADEMIC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Salaries &amp; Fringe Benefits</td>
<td>$8,117</td>
<td>$48,216</td>
<td>$97,600</td>
<td>49%</td>
<td>93%</td>
<td>89%</td>
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<td>Equipment Purchases</td>
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<td>722</td>
<td>3,000</td>
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<td>42%</td>
<td>46%</td>
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<tr>
<td>Financial Aid to Students</td>
<td>50</td>
<td>8,111</td>
<td>15,461</td>
<td>52%</td>
<td>63%</td>
<td>61%</td>
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<td>Other Operating Expenses:</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials &amp; Supplies</td>
<td>85</td>
<td>668</td>
<td>1,600</td>
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<tr>
<td>Travel &amp; Development</td>
<td>101</td>
<td>1,008</td>
<td>1,800</td>
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<td>Library Collections</td>
<td>40</td>
<td>106</td>
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<td>Other General Operating</td>
<td>537</td>
<td>4,007</td>
<td>8,676</td>
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<td><strong>Total Other Operating</strong></td>
<td>764</td>
<td>5,789</td>
<td>13,186</td>
<td>44%</td>
<td>75%</td>
<td>71%</td>
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<tr>
<td><strong>TOTAL ACADEMIC</strong></td>
<td>9,016</td>
<td>62,838</td>
<td>129,247</td>
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<td>87%</td>
<td>83%</td>
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<td><strong>SUPPORT</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries &amp; Fringe Benefits</td>
<td>2,003</td>
<td>12,927</td>
<td>28,579</td>
<td>45%</td>
<td>95%</td>
<td>88%</td>
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<td>Equipment Purchases</td>
<td>1</td>
<td>118</td>
<td>400</td>
<td>30%</td>
<td>57%</td>
<td>46%</td>
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<tr>
<td>Utilities</td>
<td>82</td>
<td>3,238</td>
<td>8,055</td>
<td>40%</td>
<td>98%</td>
<td>97%</td>
</tr>
<tr>
<td>Other Operating Expenses:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials &amp; Supplies</td>
<td>43</td>
<td>398</td>
<td>1,000</td>
<td></td>
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<td>Travel &amp; Development</td>
<td>35</td>
<td>197</td>
<td>450</td>
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<tr>
<td>Other General Operating</td>
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<td>1,674</td>
<td>5,574</td>
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<tr>
<td><strong>Total Other Operating</strong></td>
<td>254</td>
<td>2,269</td>
<td>7,024</td>
<td>32%</td>
<td>65%</td>
<td>86%</td>
</tr>
<tr>
<td><strong>TOTAL SUPPORT</strong></td>
<td>2,340</td>
<td>18,552</td>
<td>44,058</td>
<td>42%</td>
<td>89%</td>
<td>89%</td>
</tr>
<tr>
<td>TRANSFERS</td>
<td>1,392</td>
<td>6,138</td>
<td>12,320</td>
<td>50%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>TOTAL ACADEMIC, SUPPORT &amp; TRANSFERS</strong></td>
<td>12,748</td>
<td>87,528</td>
<td>185,625</td>
<td>47%</td>
<td>87%</td>
<td>86%</td>
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<td>Auxiliary Enterprises</td>
<td>455</td>
<td>3,153</td>
<td>6,122</td>
<td>52%</td>
<td>84%</td>
<td>92%</td>
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<td>Auxiliary Transfers</td>
<td>438</td>
<td>2,630</td>
<td>5,250</td>
<td>50%</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td><strong>TOTAL OPERATING EXPENSES</strong></td>
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<td>93,311</td>
<td>196,997</td>
<td>47%</td>
<td>88%</td>
<td>86%</td>
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<tr>
<td>EXPENSES FROM ALLOCATED FUNDS</td>
<td>64</td>
<td>1,733</td>
<td>3,930</td>
<td>44%</td>
<td>50%</td>
<td>44%</td>
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<tr>
<td><strong>TOTAL UNRESTRICTED EXPENSES</strong></td>
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<td>95,044</td>
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<td>87%</td>
<td>85%</td>
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<tr>
<td>RESTRICTED</td>
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<td>30,799</td>
<td>64,600</td>
<td>48%</td>
<td>50%</td>
<td>48%</td>
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<tr>
<td><strong>TOTAL EXPENSES AND TRANSFERS</strong></td>
<td>$16,756</td>
<td>$125,843</td>
<td>$265,527</td>
<td>47%</td>
<td>78%</td>
<td>78%</td>
</tr>
</tbody>
</table>
4D. Operating Statement
Year to Date
4E. Schedule of Short Term Investments
NEW JERSEY INSTITUTE OF TECHNOLOGY

SCHEDULE OF INVESTMENTS
AS OF DECEMBER, 31 2007

<table>
<thead>
<tr>
<th>DATE PURCHASED</th>
<th>MATURITY DATE</th>
<th>RATE</th>
<th>TYPE</th>
<th>WACHOVIA BANK</th>
<th>CITY NATIONAL BANK</th>
<th>MERRILL LYNCH</th>
<th>JP MORGAN CHASE</th>
<th>TOTAL</th>
</tr>
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<tr>
<td></td>
<td>1/25/2008</td>
<td>4.40</td>
<td>CD</td>
<td></td>
<td>$500,000</td>
<td></td>
<td></td>
<td>500,000</td>
</tr>
<tr>
<td></td>
<td>VARIATES 4.72</td>
<td>5.10**</td>
<td>PRIME MONEY MARKET</td>
<td></td>
<td>$2,212,798</td>
<td></td>
<td></td>
<td>2,212,798</td>
</tr>
<tr>
<td></td>
<td>VARIATES 5.10**</td>
<td>4.74**</td>
<td>MONEY MANAGER</td>
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<td>$21,164,506</td>
<td></td>
<td></td>
<td>21,164,506</td>
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<tr>
<td></td>
<td>OVERNIGHT 1.37</td>
<td>5.10**</td>
<td>MONEY MARKET</td>
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<td>$8,659,325</td>
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<td>8,659,325</td>
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<tr>
<td></td>
<td>OVERNIGHT 1.37</td>
<td>292,000</td>
<td>REPO*</td>
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<td></td>
<td></td>
<td>$30,115,831</td>
<td>$500,000</td>
<td>$4,141,395</td>
<td>$2,212,798</td>
<td>$36,970,024</td>
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</tbody>
</table>

INVESTMENT AS OF DECEMBER, 31,2006 WERE $39,033,370
* MONIES IN THIS ACCOUNT ARE INVESTED IN GOVERNMENT SECURITIES
** NET OF FEES
4F. Intangible Asset Review
NJIT Board of Trustees
Intangible Asset Review

Dr. Donald H. Sebastian, Sr. Vice President for Research & Development
Judith Sheft, Asst. Vice President for Technology Development
February 7, 2008

NJIT's activities in patents and licensing continue the upward trend established since the restructuring of the Office of Technology Development (OTD) and the implementation of the new Patent Policy in 2003. Invention Disclosures have increased from under 30 in 2003 to greater than 100 expected in FY08. Table 1 summarizes the activity for the past 3 fiscal years. The number of issued patents continues to grow as a result of this increase in submissions (on average patents issue 33 months after a Non-Provisional Patent Application is submitted to the USPTO). The addition of an in-house patent attorney has enable us to more than double the number of provisional patents filed in FY07 over FY06 without increasing expenses.

Table 1. Patent Statistics

<table>
<thead>
<tr>
<th></th>
<th>FY 06</th>
<th>FY 07</th>
<th>FY 08 (YTD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invention Disclosures</td>
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<td>73</td>
<td>50</td>
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<tr>
<td>US Patent Applications</td>
<td>49</td>
<td>78</td>
<td>26</td>
</tr>
<tr>
<td>Issued Patents</td>
<td>2</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

The other significant change coming out of the restructuring of the OTD is the growth in licensing revenues, which increased from only $16K in 2003 to $505K in 2006. FY07 revenues decreased because FY06 reflected a one-time bump of older patents finding a licensor. We expect FY08 and subsequent years to grow over FY07 and that that upward momentum will continue based on steady growth of new, licensable IP and the development of trusted license partners that seek repeat business from the university. For example we are currently negotiating our fifth/sixth deal with one particular licensee – and per the terms of our agreement with them we expect to generate nearly as much in future years as they have paid to date on deals 2, 3 & 4 (we are just beginning to receive the milestone payments due upon issuance of the 57 patents they are currently prosecuting on behalf of NJIT). In addition there are several other projects we hope will bear substantial fruit in the near future.
Table 2. License Statistics

<table>
<thead>
<tr>
<th></th>
<th>FY 06</th>
<th>FY 07</th>
<th>FY 08 (YTD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>License &amp; Option</td>
<td>33</td>
<td>24</td>
<td>18</td>
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<tr>
<td>Agreements</td>
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<tr>
<td>License Income</td>
<td>$504,575</td>
<td>$315,028</td>
<td>$252,500</td>
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</table>

The Office of Technology Development once again applied for and won a special grant from the New Jersey Commission on Science and Technology (NJCST) to accelerate the commercialization of university based intellectual property (NJIT received substantially more than any other university in NJ). These GAP funds are intended to take inventions that are beyond basic research but need proof of concept or additional development to make the technology viable for licensing. This type of translational development is typically too applied for consideration by traditional Federal funding sources. Thirty-one proposals were received from NJIT research faculty of which eleven were funded: ten at ~$47.5k each and one at $25k. The projects currently receiving NJCST GAP funds are:

- **Control of Stem Cell Differentiation through Control of Scaffold Architecture** (Treena Arinzeh and Michael Jaffe – Dept. of Biomedical Engineering). Continuing work begun in 2002, NJCST funds will be used to construct and commission an improved electrosprining apparatus; demonstrate improved electrospun fiber diameter control with standard lactide system; demonstrate adult stem cell differentiation strongly influenced by scaffold fiber diameter as well as further quantify earlier examples utilized in patent application; and demonstrate utility of “agent introduction by dyeing” for controlled release scaffolds. The team is exploring commercialization opportunities with several NJ medical device companies, including Osteotech as well as a UK based company, CellTran.

- **System and Method for Pressure Wave Transmission and Measurement – Ultrasound** (Timothy Chang - Dept. of Electrical and Computer Engineering). Building on patent pending work, NJCST funds will be used for the detection of fatigue bone fractures (and healing thereof) as well as detecting soft tissue abnormalities. Prof Chang is working closely with Medsonics, an EDC based company, which has expressed interest in licensing the technology.

- **High Precision Liquid Dispensing and Handling System - SmartPin™** (Timothy Chang – Dept. of Electrical and Computer Engineering). The original SmartPin™ patent was honored earlier this year by the NJ R&D Council with a 2007 Thomas Alva Edison Patent Award. Prof Chang will use these NJCST funds to expand the capabilities of the SmartPin™ to address fluid handling in biological systems, which our collaborators at PHRI have indicated may be a broader and more accessible market than the microarray applications originally targeted.
Property Modification, Characterization and Subsequent Processing of Ultrafine Powders (Rajesh Dave – NJ Center for Engineered Particulates / Dept. of Chemical Engineering) NJCST funds will be used to acquire equipment required to demonstrate targeted applications to various NJ companies that have expressed interest in the technology: National Starch, Exelus, Cadbury-Schweppes and Garden State Nutritionals as well as several of the big pharma companies.

Polymer Compatible Perfluorohydrocarbyl Phthalocyanines and Compositions Exhibiting Heat Ray and Selective Electromagnetic Radiation Absorption Properties (Sergiu Gorun - Dept. of Chemistry and Environmental Science). There is an on-going effort in industry and academia to produce phthalocyanine dyes that can absorb heat while allowing visible light to pass. NJCST funds will be used to produce, tune and characterize the optical properties of Prof Gorun’s proprietary dyes. Two Newark institutions (Epolin Inc and Polymer Processing Institute) as well as Seattle WA based Korry Electronics have expressed interest in commercializing the results of this work.

Production, Purification and Functionalization of Single Wall Carbon Nanotubes (SWCNTs) for Bulk Applications (Zafer Iqbal - Dept. of Chemistry and Som Mitra - Dept. of Chemistry and Environmental Science). NJCST funds will be used to combine Dr. Iqbal’s work on a new cost effective method for the production of high quality SWCNTs with Dr. Mitra’s work on purification and functionalization of same. Two institutions (Nanoholdings Inc. and Swiss Pan Asia) have expressed keen interest in licensing this technology if NJIT can demonstrate scaled up production of high quality SWCNTs, which currently have limited availability and command substantial market premiums (~$2k/gram).

Integrated, Membrane-Free Biofuel Cell on Porous Silicon with Aligned Carbon Nanotube Electrodes (Zafer Iqbal - Dept. of Chemistry and Environmental Science). Dr. Iqbal’s team has drawn on two key nanomaterials: SWCNTs and porous silicon coupled with enzyme immobilization by electrochemical or microwave reaction to fabricate a novel membrane- and electron transfer mediator-free biofuel cell structure. NJCST funds will be used for long-term testing and mitigation of enzyme instability, further improvement in power output and demonstration of an implantable device.

Large-scale Demonstrations of a Hollow Fiber Membrane Technology for Removal and Recovery of Volatile Organic Compounds from Waste Air Streams (Kam Sirkar - Dept. of Chemical Engineering). NJIT’s Membrane Separations Group has developed a novel hollow fiber membrane-based technology for removal and recovery of a variety of volatile organic compounds (VOCs) in air/N2/waste gas streams being vented into the atmosphere. NJCST funds will be used to support NJIT’s on-going participation in NASA’s testing of this capability in 20-30 scfm gas flow rates at Goddard Space Flight Center (VA), Michoud Assembly Facility (LA) and two or more other NASA sites to be selected.
Smart Shunt for Hydrocephalus and Brain Injury (Gordon Thomas - Depts. of Physics and Biomedical Engineering). For the past four years Dr. Thomas’ team has been working with surgeons at Harvard Medical School and UMDNJ to come up with a shunt that once inserted into the brain will reliably indicate the flow and pressure of the cerebro-spinal fluid; decrease the likelihood of becoming obstructed by brain tissue (which can lead to a potentially lethal increase in the intracranial pressure) and introduce the possibility of clearing such obstructions via a simple procedure rather than shunt replacement. NJCST funds will be used to incorporate NJIT’s new pressure and flow sensors and reduced obstruction features in a shunt and to test it in as many clinically-related situations (using rats with hydrocephalus) as possible. Preliminary market analysis indicates the leading shunt producers do not have any of these new capabilities.

Patient-Operated Tonometer (Gordon Thomas - Depts. of Physics and Biomedical Engineering). Working with Robert Fechtner, an ophthalmologist at UMDNJ, Dr. Thomas’ team has built and tested a patient-operated tonometer which corrects for the properties of the eyelid and eye motion. Their latest results show pressure readings through the eyelid comparable in accuracy to those taken directly on the cornea with the state of the art Goldmann instrument in a doctor’s office. NJCST funds will be used to make a few critical improvements to the tonometer and test it with as large a patient pool as possible in Dr. Fechtner’s clinic at UMDNJ to measure reproducibility as well as induced changes in the patients’ eye pressure. Preliminary market analysis indicates improved accuracy and reproducibility over potentially competing products.
Royalty Bearing Licenses, Feb 07 – Feb 08

**Intellectual Ventures Deal 4 - $330,000 (payments upfront & on patent issuance then royalty upon license)**
James Geller (CS)
Yehoshua Perl (CS)
Nirwan Ansari (ECE)
Yun-Qing Shi (ECE)
Atam Dhawan (ECE)

**Pneumatic Fracturing - $55K/yr**
John W. Liskowitz, (CEE, retired)
John R. Schuring (CEE)
Deran Hanesian (ChE)
Angelo J. Perna (ChE)
<table>
<thead>
<tr>
<th>Title</th>
<th>Inventors</th>
</tr>
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<tbody>
<tr>
<td>FLAMES - Haptic Interface for the Blind</td>
<td>Mesut Sahin</td>
</tr>
<tr>
<td>FLAMES - Visual Prosthesis</td>
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4G. Spring / Fall 08 Enrollment and Enrollment Projections
TACTICS TO INCREASE APPLICATIONS/ADMISSION/ENROLLMENT (UNDERGRADUATE AND GRADUATE) FOR FALL 2008

The overall strategy to increasing applications/admissions/enrollment is to increase marketing, develop new majors, and continuously improve the operations linked to these functions. The tactics below are currently being implemented in order to increase the fall 2008 enrollment.

A. UNDERGRADUATE TACTICS:

**Freshmen**
1. Increased number of names purchased for both 2008F and 2009F; purchased names from NRCCUA (National Research Center for College University Admissions) as well as the College Board.
2. Expanded “Territory Management Initiatives;” more personal interaction between admission counselors and prospects, and admissions counselors and guidance counselors in their territories. SIS database now includes over 350 personal HS contacts.
3. Early processing and actions on freshman files (as of Jan 1, processed 15% more files than the previous year). Also, processed and awarded 35% more merit awards over the previous year.
4. Conducted 4 “Instant Decision Days” for prospective freshmen on campus, highly promoted via the website and by admission staff. Approximately 400 students attended the sessions, over 250 were offered admission immediately, others counseled on how to improve their academic profile.
5. Conducted over 20 “Immediate Decision Days” in high schools.
6. Promotion of “New Majors;” mailed tri-fold publication to high schools guidance offices, and to county superintendents; visits made/planned to selected high schools by departments to promote new majors. Webpage created for “Proposed New Undergraduate Majors” with downloadable PDFs.
7. Improved website: more user-friendly layout; more relevant profiles (students, alumni, and faculty) strategically placed.
8. APT to Succeed: earlier interviewing and decisions (25 APT admission offers made to date).
9. Affordability: will continue our current strategy to increase need met by packaging low-interest loans in all financial aid packages.
10. Continue coordination and sharing best practices for increasing yield via the Enrollment Management Committee (e.g. NCE’s “4 contacts” approach).
11. The Albert Dorman Honors College visits selected magnet high schools within New Jersey, and in contiguous states. Promote high quality education at affordable tuition due to Dorman merit awards.

**Transfer**
1. All New Jersey freshman students who are denied admission receive a personalized letter encouraging attendance at their local community college.
2. Continue to visit major feeder community colleges twice each semester to publicize and promote our new (and current) majors; where allowed, do an “Instant Decision Day” (eight held in fall 2007).
3. Regular advertisements in county college newspapers to keep students informed about NJIT as an option.
4. Early transfer applicant screening for better admissions advisement.
5. NJIT faculty members are encouraged to visit community college classes or clubs; faculty exchange programs are under discussion.
6. Monthly “Instant Decision Days” on campus in the spring; weekly in the summer.
7. Expanded outreach planned for “NJ Stars” students.

B. GRADUATE TACTICS:

1. Graduate Admissions staff processes admission for candidates who meet all stated department criteria (allows faster file processing).
2. Email campaign planned to recent alumni (5 years out) about the new MS programs.
3. Improved website, including a page for “Proposed New Graduate Degree Programs,” and for “Featured Masters’ Degree Programs,” both with downloadable PDFs.
4. Increased number of on campus Graduate Open Houses.
5. Continued NJIT recruitment activities in India as last year, except we USEFI (United States Educational Foundation in India) Centers to more effectively promote NJIT (cost was nominal; benefits include use of their facilities, publicity included, and their locations serve as a repository for our publications, etc.) This year we also sent a representative on a Linden recruiting tour to reach other Asian countries (South Korea, Vietnam, Thailand, Shanghai, Hong Kong and Taiwan).
6. Promote more use of technology by graduate advisors to reach prospective students, applicants, and admitted students: IM, blogs, chats, etc.
7. Recruiting NJIT Honors Students for accelerated BS/MS and BS/PhD programs.
8. Continue coordination and sharing ideas for increasing prospects, applications, and yield via Enrollment Management Committee monthly meetings and group website.
9. Continued use of Provost Scholarship to encourage full-time MS enrollments. Suggested “tiered” revision to the award amounts will require additional financial resources.
10. Recommend purchase of GRE names with emails for an email campaign to increase applications (will need additional financial resources).
11. Recommend faculty visits to targeted universities in NY/NJ metropolitan area, and encourage faculty recruiting MS students while attending conferences (will need additional resources).
12. Recently hired a “Corporate Liaison” in CPE (Continuing Professional Education).
13. Committee of faculty and staff have developed a comprehensive plan for graduate recruiting.

Report to the Board of Trustees, February 7, 2008
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<td>1219</td>
<td>1351</td>
<td>1414</td>
<td>1506</td>
<td>1601</td>
<td>1714</td>
</tr>
<tr>
<td></td>
<td>FT</td>
<td>1641</td>
<td>1651</td>
<td>1728</td>
<td>1840</td>
<td>1957</td>
<td>2095</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8276</td>
<td>8617</td>
<td>8918</td>
<td>9324</td>
<td>9761</td>
<td>10200</td>
</tr>
</tbody>
</table>
4H. Report on Gifts and Fund Raising Activities

Comparison of Total Giving Year to Date:

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sources</td>
<td>$4,584,844</td>
<td>$4,874,153</td>
<td>$9,006,806</td>
</tr>
<tr>
<td>All Sources without Gifts in Kind</td>
<td>$2,691,596</td>
<td>$3,789,708</td>
<td>$6,995,526</td>
</tr>
<tr>
<td>Matching Gifts</td>
<td>$25,813</td>
<td>$62,425</td>
<td>$24,461</td>
</tr>
</tbody>
</table>

Comparison By Donor Type Year To Date for 2006, 2007 and 2008:

<table>
<thead>
<tr>
<th>Category</th>
<th>$ Giving</th>
<th>2006 %</th>
<th># Donors</th>
<th>$ Giving</th>
<th>2007 %</th>
<th># Donors</th>
<th>$ Giving</th>
<th>2008 %</th>
<th># Donors</th>
<th>% Donor</th>
<th>% $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alum</td>
<td>$804,229</td>
<td>17.54</td>
<td>2,537</td>
<td>$1,094,333</td>
<td>22.45</td>
<td>2,996</td>
<td>$2,123,963</td>
<td>23.58</td>
<td>3,297</td>
<td>10%</td>
<td>94%</td>
</tr>
<tr>
<td>Corp</td>
<td>$2,976,179</td>
<td>64.91</td>
<td>143</td>
<td>$2,354,402</td>
<td>48.30</td>
<td>205</td>
<td>$3,158,414</td>
<td>35.07</td>
<td>203</td>
<td>-1%</td>
<td>34%</td>
</tr>
<tr>
<td>Foundations</td>
<td>$437,657</td>
<td>9.55</td>
<td>16</td>
<td>$510,333</td>
<td>10.47</td>
<td>14</td>
<td>$2,520,515</td>
<td>27.98</td>
<td>20</td>
<td>43%</td>
<td>300%</td>
</tr>
<tr>
<td>Friends</td>
<td>$239,402</td>
<td>5.22</td>
<td>233</td>
<td>$648,231</td>
<td>13.30</td>
<td>342</td>
<td>$1,010,272</td>
<td>11.22</td>
<td>232</td>
<td>-32%</td>
<td>55%</td>
</tr>
<tr>
<td>Other</td>
<td>$127,377</td>
<td>2.78</td>
<td>15</td>
<td>$266,853</td>
<td>5.47</td>
<td>10</td>
<td>$193,642</td>
<td>2.15</td>
<td>8</td>
<td>-20%</td>
<td>27%</td>
</tr>
<tr>
<td>Totals</td>
<td>$4,584,844</td>
<td>100.00</td>
<td>2,944</td>
<td>$4,874,153</td>
<td>100.00</td>
<td>3,567</td>
<td>$9,006,806</td>
<td>100.00</td>
<td>3,760</td>
<td>5%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Year End Totals

<table>
<thead>
<tr>
<th></th>
<th>Total Dollars</th>
<th>% of FY06 Funds Raised</th>
<th>% of Year Elapsed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$7,159,033</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2007</td>
<td>$8,205,298</td>
<td>115%</td>
<td>100%</td>
</tr>
<tr>
<td>2008</td>
<td>$9,006,806</td>
<td>126%</td>
<td>50%</td>
</tr>
</tbody>
</table>

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1 Alumni – Spatz Bequest $1M
2 Foundations – Stabile $1.5M, Leir $400K
3 Friends – Murawski $700K
4 Other Organizations – Vanguard (Dow) $100K, Association of Enterprise Opportunity $53K
4I. Fund Raising Growth Strategies
FUNDRAISING GROWTH STRATEGIES

In September 2007, the university launched the public phase of the Highlander Athletics Campaign, with completion of the effort anticipated in the late spring of 2008. As of December 2007, 76% percent of the $5 million dollar goal has been achieved.

Preparations for a major campaign will continue throughout the year. In this regard, the Needs Assessment Committee has completed its work and has provided a summary report on the priorities that will form the basis of the case for the comprehensive campaign. An abstract case statement has been drafted and will be presented to the Vice Presidents, Provost, Deans and Board Members. The campaign staff and leadership will work with counsel to complete the feasibility study by May 2008, to ensure the strength of the campaign’s message and to help identify the top prospects. Identification and recruitment of volunteer leaders to form the nucleus of the Campaign Steering Committee is projected for May/June 2008.

The Annual Fund will focus on increasing alumni participation and unrestricted giving. Phonathon will be revamped to encourage credit card payments, which should result in fewer outstanding pledges at the end of the fiscal year. In addition, for the first time, alumni will have the option of making multiple credit card payments for pledges of $100 or more.

The Development team will continue its successful strategies — cultivating and expanding advisory boards and alumni councils, encouraging the involvement of deans and department chairs, and using one-to-one solicitation methods to the greatest extent possible. Targeted dinners and receptions will remain key to the cultivation process. At this time there are eight cultivation dinners scheduled through the end of the academic year. These initiatives are expected to garner a significant increase in funds raised for each college and generate an expanded pool of major donor prospects for the campaign.

The Leadership Circle will work to solidify membership at the highest levels, while working to bring new donors into the lower rungs of the major-giving ladder. In 2008, the goal is a 15% increase in the number of Leadership Circle donors.

The Planned Giving Program will employ a variety of outreach methods in 2008: local and regional cultivation visits/events with alumni and friends, stewardship events for members and prospective members of the 1881 Society, financial and estate planning seminars designed for alumni, faculty/staff and civic organizations, newsletters and postcards, as well as e-communications and articles in the alumni magazine, continued coordination with the respective development officers and a presence on the Web at www.njit.edu.
5. Announcement of Next Meeting
Chairperson’s Closing Statement
BOARD OF TRUSTEES

RESOLUTION RE: CLOSED SESSION TO DISCUSS PERSONNEL MATTERS, REAL ESTATE AND CONTRACT MATTERS.

WHEREAS, THERE ARE MATTERS THAT REQUIRE CONSIDERATION BY THE BOARD OF TRUSTEES THAT QUALIFY UNDER THE OPEN PUBLIC MEETINGS ACT FOR DISCUSSION AT A CLOSED SESSION.

NOW, THEREFORE, BE IT RESOLVED, THAT THE BOARD OF TRUSTEES SHALL HAVE A CLOSED SESSION TO DISCUSS MATTERS INVOLVING PERSONNEL, REAL ESTATE AND CONTRACTS TO TAKE PLACE ON APRIL 10, 2008 AT 9:30 AM, EBERHARDT HALL NJIT ALUMNI CENTER BOARD ROOM.