STATE OF INDIANA

COMMISION FOR HIGHER EDUCATION

INSTITUTION: Indiana University Purdue University Indianapolis

COLLEGE: Purdue School of Engineering and Technology

DEPARTMENT: Biomedical Engineering

DEGREE PROGRAM TITLE: Biomedical Engineering

FORM OF RECOGNITION TO BE AWARDED: Bachelor of Science Biomedical Engineering (BSBME)

SUGGESTED CIP CODE:

LOCATION OF PROGRAM/CAMPUS CODE: Indianapolis

PROJECTED DATE OF IMPLEMENTATION: Fall 2004

DATE PROPOSAL WAS APPROVED BY
INSTITUTIONAL BOARD OF TRUSTEES:

_____
SIGNATURE OF AUTHORIZING
INSTITUTIONAL OFFICER

_____
DATE

_____
DATE RECEIVED BY COMMISSION FOR
HIGHER EDUCATION

_____
COMMISSION ACTION (DATE)

A. Abstract

THE BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING OFFERED BY THE PURDUE SCHOOL OF ENGINEERING AND TECHNOLOGY AT INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS

Objectives: Biomedical Engineering is a rapidly maturing discipline aimed at improving human health by applying engineering principles and techniques to solve complex medical problems.

Clientele to be Served: This program is designed for students who wish to combine engineering training with significant life science components and integration at the undergraduate level.

Curriculum:
Total Credit Hours: 133 semester credit hours.

Credit Hours for Required Courses: There are 101 semester credit hours of required courses.

Additional Credit Hours: There are 32 semester credit hours of electives.

Subject Areas of Required Courses: The primary subject areas of required courses are in mathematics, science, biomedical engineering, and general education.

Internships or Practica: None required for the Bachelor of Science in Biomedical Engineering

Unique and Innovative Features:

Employment Possibilities: The program will primarily educate students for careers in the medical device and products industry. Indiana has a substantial medical device and products industry with a growing need for biomedical engineers. In addition the Indiana based pharmaceutical industries has expressed a strong interest in bachelors level biomedical engineers. The US Department of Labor estimates a 33.4% increase in the need for biomedical engineers in nationwide from 1998-2008. Recent surveys indicate that bioengineers are now among the highest paid professions in the life science fields attesting to this increasing demand.

B. Program Description

1. Description and Objectives

This is a proposal to award the degree of Bachelor of Science in Biomedical Engineering at the Purdue School of Engineering and Technology on the IUPUI campus. The proposed program has been developed by faculty in the Biomedical Engineering Program with consultation with faculty in a variety of related departments including Electrical and Computer Engineering, Mechanical Engineering, the Biology Department in the Purdue School of Science, and the Indiana University School of Medicine. In addition, faculty in the Biomedical Engineering Department on the West Lafayette campus were also consulted.

This program will address a growing need for engineers who understand biological and physiological phenomena and exploit this knowledge to design and develop biomedical processes and products. The student will be immersed in the key life science components of the field while learning its fundamental engineering science, analysis, design, and problem solving components. This integration of engineering and life sciences will occur in classes and laboratories, allowing for a more efficient, cohesive, and in-depth curriculum. Graduates will contribute to industrial research and development teams by bringing unique analytical and design capabilities at the interface between the cell/tissue/organ/body and the device or therapy. They will positively impact a medical device and products industry whose key engineering challenges are increasingly of a biological or physiological nature.

2. Admission Requirements and Student Clientele

a. Admission Requirements: Admission to the Bachelor of Science in Biomedical Engineering will require the same standards required for the other undergraduate engineering degree programs in the Purdue School of Engineering and Technology.

b. Prerequisites: There are no prerequisites for the program beyond those required for admission.

Student Clientele: The clientele for the Bachelor of Science in Biomedical Engineering degree program are those students whose interests include science and mathematics in a way that stimulates a desire to solve problems of a highly technical nature. Biomedical Engineering students must also have an interest in the life sciences and medicine to understand the frame work of the problems on which they will work. The modern life sciences have become more analytical and computer based in their approach to fundamental knowledge and the biomedical industry in now considered one of the leading edge industries whose benefits we are just beginning to reap. These students will be drawn from the pool of students normally attending IUPUI. These include a broad mix of full time and part-time students, older students, and women returning to the work force. In addition, this new degree program will attract students who might not have considered IUPUI because of the unique opportunities on our campus for engineering students to interact with faculty and other resources in the IU Schools of Medicine and Dentistry.

c. Enrollment Limitations: There is no sense that enrollments would be limited. While it is expected that Biomedical Engineering would be a popular new degree program, experience with the other engineering programs on the IUPUI campus would indicate that with the existing and the requested new resources these students be accommodated.

3. Proposed Curriculum

a. Curriculum Requirements: The Bachelor of Science in Biomedical Engineering degree will have basic requirements similar to those in the other undergraduate engineering programs at IUPUI and will be very similar to the BS in the Biomedical Engineering Department at the West Lafayette campus. The minimum number of semester credit hours (SCH) for the degree will be 133. This will include a general freshman engineering year of 35 SCH, additional mathematics and science of 28 SCH, 19 SCH of engineering design, 18 SCH of engineering science, up to 12 SCH of biomedical engineering electives, and 18 SCH of General Education. A significant factor in all engineering curricula is the accreditation from the Accreditation Board for Engineering and Technology (ABET). ABET has a formal set of curricula requirements for the field of biomedical engineering and it is essential for the success of the program to obtain this credential. The proposed curriculum follows the ABET guidelines.

b. Sample Curriculum:

Freshman Year

First Semester	SCH	*Second Semester*	SCH
ENGR 196 Engineering Problem Solv.	3	ENGR 197 Intro. to Computing	3
Chem. C105 Principles of Chemistry I	3	Chem. C106 Principles of Chemistry II	3
Chem. 125 Experimental Chem. I	2	Eng W131 Elementary Composition I	3
Math 163 Integrated Calculus and Analytic Geometry I	5	Math 164 Integrated Calculus and Analytic Geometry II	5
Comm. R110 Fundamentals of Speech Communication	3	Phys 152 Mechanics	4
ENGR 195 Resources in Engineering	1		
TOTAL SCH	**17**		**18**

Sophomore Year

First Semester	SCH	*Second Semester*	SCH
Math 261 Multivariate Calculus	4	Math 262 Linear Algebra Differ. Eqns.	4
Biol. K101 Concepts of Biology I	5	Phys 251 Elec., Heat, Optics	5
BME 241 Biomechanics	3	Chem. C341 Organic Chemistry I	3
Humanities or Social Science Elective	3	Chem. C343 Organic Chemistry Lab I	2
ECON E201 Economics	3	Humanities or Social Science Elective	3
TOTAL SCH	**18**		**17**

Junior Year

First Semester	SCH	*Second Semester*	SCH
Biol. K324 Cell Biology	3	BME 310 Quantitative Physiology & Pharmacokinetics	3
Biol. K325 Cell Biology Lab	2	BME 302 Probability & Statistics for BME	3
BME 381 Biomaterials	3	BME 362 Computational Biology	3
BME 301 Biosignals and Systems	3	BME 342 Tissue and Cell Mechanics	3
BME 311 Biomeasurements	4	Humanities or Social Science Elective	3
TCM 360 Communications in Engineering Practice	2		
TOTAL SCH	**17**		**15**

Senior Year

First Semester	SCH	*Second Semester*	SCH
BME 441 Biofluid Mechanics	3	BME 492 BME Design II	3
BME 491 BME Design I	3	BME 422 Biosensors	3
BME 431 Bioelectricity	3	BME Elective	3
BME Elective	3	BME/Science/Technical Elective	3
BME/Science/Technical Elective	3	Humanities or Social Science Elective	3
		BME 402 Ethics for Biomedical Engr.	1
TOTAL SCH	**15**		**16**

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING
PLAN OF STUDY

Name_____Student No._____

School Admission Date_____ Program Entry Date_____

Course Number	Semester Hrs
I. FRESHMAN ENGINEERING (35 hours)	
*MATH 163	5
*MATH 164	5
*CHEM C105	3
*CHEM C125	2
*CHEM C106	3
*ENGR 197	3
*ENGR 196	3
*ENGR 195	1
*PHYS 152	4
*COMM R110	3
*ENG W131	3
II. MATH & SCIENCES (28 hours)	
*MATH 261	4
*MATH 262	4
*PHYS 251	5
*CHEM C341	3
*CHEM C343	2
*BIOL K101	5
*BIOL K324	3
*BIOL K325	2
III. ENGINEERING DESIGN (19 hours)	
BME 311	4
BME 362	3
BME 301	3
BME 422	3
BME 491	3
BME 492	3

Course Number	Semester Hrs
IV. ELECTIVES (12 hours)	
BME Elective	3
BME Elective	3
BME/Science/Technical Elective	3
BME/Science/Technical Elective	3
V. ENGINEERING SCIENCES (18 hours)	
BME 381	3
BME 302	3
BME 310	3
BME 241	3
BME 342	3
BME 431	3
BME 441	3
VII. GENERAL EDUCATION (18 hours)	
*TCM 360	2
BME 402	1
*ECON 201	3
*Hum/Soc Sci	3
*Hum/Sco Sci	3
*Hum/Sco Sci	3
*Hum/Soc Sci	3

*** currently offered course**

c. **Existing Courses:** In the above plan, existing courses marked with an asterisk and are offered regularly. These are all of the non-BME prefixed courses. The senior year electives in science or technically related field may come from an existing set of courses in other departments. These courses will usually be at the 200 level or higher. Since there exists a Masters Degree in Biomedical Engineering at IUPUI a set of dual level (first year graduate/senior level) 500 numbered course have been developed to support this program. Hence the senior level BME electives may come primarily from these courses which have included: Biomedical Instrumentation, Medical Imaging, Biosignal Processing, Biomechanics, Biomaterials, and Biomolecular Engineering.

d. **New Courses:** There are 14 newly defined BME courses which form the core of the new curriculum. The aim of these courses is to teach engineering science and design in the context of the life sciences and biology. In addition, there is a course on ethics for biomedical engineers

e. **Courses at Other Institutions:** The BS degree in Biomedical Engineering will be free standing on the IUPUI campus and will not require participation with other institutions.

4. Describe Form of Recognition

a. **Types of Degree:** Bachelor of Science in Biomedical Engineering

b. **Institution's CIP Code:** The suggested CIP code for the undergraduate program in biomedical engineering is .

c. **Diploma Information:** The degrees will read as follows: Bachelor of Science in Biomedical Engineering Awarded for Studies at Indianapolis.

5. Program Faculty and Administrators

The following faculty all currently have their appointments in a variety of departments. The creation of the Biomedical Engineering Program and its graduate degrees (Master of Science based in Indianapolis and the PhD a joint campus degree program with the West Lafayette campus.) has allowed the current BME Program to have three full-time faculty and 5 part-time faculty. Administratively the BME Program has had funding primarily in Purdue School of Engineering and Technology, but some of the funding has also been distributed to the Purdue School of Science and the IU Schools of Medicine and Dentistry. The approval of the BS degree in Biomedical Engineering will concomitantly lead to the establishment of the Department of Biomedical Engineering.

a. **List Current Administration and Faculty:** Following is a list of faculty and administrators who will participate in the Biomedical Engineering degree program. The full time faculty have more than 50% of their salary support from BME funds

and the part time faculty receive less than 50% of their salary from BME funds. There are about 15 adjunct faculty whose responsibilities do not extend to teaching BME courses, but support the graduate and research mission of the Program.

Administration

H. Oner Yurtseven, Ph.D., Dean, Purdue School of Engineering and Technology

Edward J. Berbari, Ph.D., Professor of Electrical Engineering and Medicine, Director of Biomedical Engineering. Computer based medical instrumentation, biomedical signal processing, cardiac electrophysiology, and biophysical modeling.

Full Time

John H. Schild, Ph.D., Assistant Professor of Electrical Engineering. Computational neuroscience, biomedical engineering, neural control of the heart, and bioelectricity.

Hiroki Yokota, Ph.D., Assistant Professor of Mechanical Engineering. Biomolecular engineering, DNA sequencing, biomechanics.

Part Time

Mostafa Analoui, Ph.D., Associate Professor of Dentistry. Medical and dental imaging.

Ti Chen Li, Ph.D., Assistant Professor of Radiology. Neuronal function connectivity, diffusion tensor imaging and fMRI techniques.

Christoph Naumann, Ph.D., Assistant Professor of Chemistry.

Evan Morris, Ph.D., Assistant Professor of Radiology. Tracer kinetic modeling, parameter estimation, optimal experiment design applied to dynamic PET or MR data, mechanisms of neuropsychiatric disease.

Charles Turner, Ph.D, Professor of Orthopedics. Solid mechanics, biomechanics, biomaterials, bone biology, and musculoskeletal biomechanics.

b. New Faculty Positions: There is a critical need for new faculty members to design, develop, and implement the new undergraduate curriculum in biomedical engineering. As previously detailed, a minimum of 14 new courses needs to be developed, many with integrated computational laboratory components. In addition, state-of-the-art instructional laboratories need to be developed to provide hands-on experiences for the students in this highly applied field. Thus, new faculty members are required to fully implement this undergraduate curriculum. These faculty members will also expand our graduate course offerings and research capabilities. In order to cover the spectrum of courses to be developed and offered, we will hire outstanding individuals with significant expertise in the broad areas of orthopedic biomechanics, cellular engineering,

biomaterials, tissue engineering, bioelectricity, medical instrumentation, biofluidics, and biosensors.

6. Description of Needed Learning Resources

a. **Current Resources for the Program:** Library resources for engineering are up to date with collections spanning a variety of engineering fields. In addition the Ruth Lilly Medical Library and the Dental School Library will provide additional and unique resources for the students. Together these libraries have significant holdings in textbooks, reference books, and periodicals.

b. Additional Resources Required for the Program: To have a high-quality undergraduate program that fully prepares students to design and implement new medical devices and processes, hands-on laboratory experiences are in essential component. Thus, there is a critical need to design and construct biomedical instructional laboratories where practical problem-solving and learning takes place. These laboratories will contain state-of-the art biomedical measurement and analysis equipment and be staffed by knowledgeable laboratory coordinators. The laboratory experiences of the students will be highly integrated with the didactic portions of their courses to provide tangible links between theory and practice. The amount laboratory-based learning in the new biomedical engineering courses will vary from moderate to high, with strong laboratory foci in such courses an bioinstrumentation and biosensors, and in the senior design project.

These instructional laboratories will provide a unique resource and be an exciting environment where students learn many essential technical skills as well as the importance of communication and teamwork.

7. Program Strengths

a. Special Features: This unique program will provide rigorous undergraduate engineering education solely in the context of biomedicine. A true integration of engineering and life sciences will take place within classes and associated laboratories. Students will learn their engineering science, design, analysis, and problem solving skills while learning how living systems function, break down in disease and benefit from therapeutic approaches. Graduates of this program will be distinct from their traditional engineering counterparts and be ideally suited to face research and development challenges in the biomedical field. This program will elevate the Biomedical Engineering Program to Departmental status with bachelors through doctoral program offerings.

b. Anticipated Special Arrangements: There are not anticipated agreements with other parties concerning the undergraduate program.

C. Program Rationale

1. Institutional Factors

a. **Compatibility with IUPUI Mission:** The Central Indiana business community is a primary customer for IUPUI's urban campus mission. The Purdue School of Engineering and Technology at Indianapolis must train individuals whose skills and knowledge are at the leading edge of modern technology. In addition, it is recognized that the state This includes the design, development, and use of modern computing devices and tools which are both hardware and software based.

b. **Planning Process:** Since the formation of the Biomedical Engineering Program on the IUPUI campus in 1996, and the Biomedical Engineering Department on the West Lafayette campus, all of the biomedical engineering faculty have discussed and planned the proposed bachelors degree program in response to growing industrial needs and student interest. The sample plan of study and constituent courses to be developed were designed after careful consideration of many factors including the core science, analysis, and design skills needed in biomedical device and process research and development. Since the overwhelming majority of our current faculty have primary appointments in other engineering or science disciplines, this planning process coalesced a variety of perspectives from what is a highly diverse field. This inclusionary philosophy allowed for the design of a unique program that has the endorsement of all of the faculty and administrators involved.

Our timeline for implementation is to immediately begin to hire faculty and staff to design and develop the curriculum, including the instructional laboratories, and thereby allow matriculation of the first class of students in Fall 2004. This faculty growth will also allow us to rapidly expand our biomedical engineering graduate program and associated research, which already has considerable momentum. As previously detailed, a key consideration will be to match new faculty expertise and interest with core components of the curriculum to ensure the offering of rigorous courses with state-of-the art material and concepts.

c. Impact on Other Programs at IUPUI: The increased number of engineering students at IUPUI enrolled in this new program will initially undertake the Freshman Engineering Program and thereby increase the necessary teaching and counseling commitment of this Program and the other departments involved. These other departments include Chemistry, Mathematics, and Physics, and to a lesser degree and English. Also, biomedical engineering students will likely take two introductory courses in the Department of Biological Sciences.

d. Full Utilization of Resources: Students in the program will utilize a number of existing resources including the campus libraries. As previously noted, they will also undertake the Freshman Engineering program and thereby benefit from the academic advising and career counseling therein. However, as a new program, many of its

curricular attributes and needs are unique, including courses and instructional laboratories.

2. Student Demand

How Were Enrollments Predicted: Biomedical Engineering is one of the fastest growing academic disciplines in response to industrial needs. Over the past decade, nationwide enrollments in biomedical engineering undergraduate programs have nearly doubled from approximately 3,500 to more than 6,000 students. During that same period graduate enrollment has increased by over 50% from roughly 1,500 to over 2,250 graduate students. Trends indicate that such increases in both undergraduate and graduate enrollments in biomedical engineering will continue to fulfill employer demand. In the past 5 years more than 40 new undergraduate programs have been developed in the US.

We expect that 35 new students each year will undertake the Bachelor of Science in Biomedical Engineering program. Since it is a four-year degree program, this implies the steady state addition of 140 engineering students. This number reflects our estimates of student interest, industrial need within Indiana, and our ability to offer a high-quality program given the resources requested. This program is designed to attract majors in biomedical engineering and thus it is not expected that the courses developed would serve as service or elective courses for a significant number of students in other majors.

Please see Table 1 for Enrollment and completion Data. Tables 1, 2a, 2b, and 3 have data for the first five years of the program. Because of the number of anticipated part time students the program will reach equilibrium in the eighth year. The tables therefore have the first five years and the eighth year tabulated.

3. Transferability

The transfer of credits among various institutions is a highly variable process. Each institution has its own guidelines for the transfer of credit. This program will eventually be fully accredited by the Accreditation Board for Engineering and Technology (ABET) and transfer credits between accredited programs is common. Within the state of Indiana complications for transferring credit are not expected. For the current engineering degree programs offered at IUPUI there have been no transfer problems to similarly titled degree programs.

4. Access to Graduate and Professional Programs

The undergraduate program in biomedical engineering will prepare students to undertake graduate study in biomedical engineering should they choose to do so. The planned curriculum will provide all of the requirements for admission. The number of biomedical engineering graduate programs in the U.S. has reached nearly 100, providing unprecedented opportunities for study in this field. In addition, the prospects for

employments in the growing medical device and products industries with a masters or doctoral degree in biomedical engineering is outstanding.

The four year degree in Biomedical Engineering is also highly valued for both advanced degree training as well as in many professional programs such as medicine, dentistry, business, and law. Many BME graduates go on to medical school and Executive Associate Dean for Medical Education has examined the curriculum and strongly supports its pre-medical features (see attached letter).

5. Demand and Employment Factors

Indiana is a primary source of medical devices and products. Major Indiana companies include Biomet, Cook, DePuy, Eli Lilly, Guidant, Hillenbrand Industries, and Zimmer. Numerous start-up and smaller specialty companies are based in Indiana. Growth trends in these companies and nationwide indicate a strong and steady need for biomedical engineers. The U.S. Department of Labor estimates the need for 33.4% more biomedical engineers in the medical device and products industry by 2008 nationwide. Biomedical Engineering graduates will be needed in many aspects of the filed including research, development, manufacturing, and sales. The sample curriculum has been presented to many potential employers and there are several letters attached to the application from executives attesting to their strong interest in the BME degree program with special attention to employability within their organizations.

6. Regional, State, and National Factors

a. Comparable Programs: A new BS in Biomedical Engineering was recently approved at Purdue University, West Lafayette. There are no other bachelors level biomedical engineering degrees in Indiana.

b. External Agencies: The Accreditation Board for Engineering and Technology, Inc. (ABET) is recognized by the Department of Education as the body which accredits all engineering degrees in the US. The process is quite involved and before ABET will schedule an accreditation visit for a new degree program there must be at least one graduate of the program.

D. Program Implementation and Evaluation

Assessment of the success of the Biomedical Engineering program will follow the model developed for the school by the Purdue School of Engineering and Technology at IUPUI Assessment Committee for its ABET and North Central Association outcomes assessment processes. As with the other engineering programs, assessment of the success of the program will have the following components: (1) assessment of student learning through evidence collected on the measurable learning outcomes developed to meet ABET/EAC's Criterion 3 (see below) and IUPUI's Principles of Undergraduate Learning (see below), (2) an assessment of industry's satisfaction using both a survey form that is currently being developed and focus groups, (3) an assessment of alumni satisfaction through feedback using

a process similar to that being developed for industry feedback, and (4) assessment of success of the program by tracking matriculation rates, graduation rates, successful job placement, graduate school admissions, and advancements.

1. Assessment of Measurable Learning Outcomes

As the curriculum is developed the faculty will develop measurable learning outcomes to assess the general objectives expressed in ABET/EAC's Criterion 3 and the IUPUI Principles of Undergraduate Learning. The addition of biomedical engineering may warrant a different set of individual general objectives, but they will follow those defined by ABET. ABET has asked all engineering programs to assess its students on the following:

a. An ability to apply knowledge of mathematics, science and engineering.
b. An ability to design and construct experiments, analyze and interpret data.
c. An ability to design a system, component, or process to meet a desired need.
d. An ability to function on multi-disciplinary teams.
e. An ability to identify, formulate and solve engineering problems.
f. An understanding of professional and ethical responsibility.
g. An ability to communicate effectively.
h. The broad education necessary to understand the impact of engineering solutions in a global societal context.
i. A recognition of the need for and an ability to engage in lifelong learning.
j. A knowledge of contemporary issues.
k. An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

Likewise, the campus has asked each program to assess student learning on its six general education principles. They are:

a. Core Communication and Quantitative Skills--the foundational areas of writing, reading, speaking and listening, quantitative analysis, and use of information resources and technology
b. Critical Thinking--the cognitive process which involves the careful and logical examination of information and ideas from multiple perspectives.
c. Integration and Application of Knowledge--the ability of students to apply concepts from their multi-disciplinary studies to their intellectual, professional, and community lives.
d. Intellectual Breadth, Depth, and Adaptiveness--the ability of students to examine, organize, and apply disciplinary ways of knowing to specific issues and problems.
e. Understanding Society and Culture--the ability of students to place their own experiences and cultural traditions in a broader human context, both within the United States and internationally.
f. Values and Ethics--the ability of students to make principled judgements with respect to individual conduct, citizenship, and aesthetics.

2. Assessment of Industry Satisfaction

The Purdue School of Engineering and Technology at IUPUI and its departments are currently developing a survey instrument in consultation with members of the school's Dean's Industrial Advisory Committee (DIAC). The instrument will be used to obtain industry feedback on our graduates and contains items derived from the ABET objectives described above and the IUPUI Principles of Undergraduate Learning. At this point in time, the committee has prepared a questionnaire for members of DIAC, asking for feedback on the value that they place on the items that comprise the survey form. In other words, the survey form is being tested with our industrial partners. After the questionnaire has been put into final form, it will be distributed to employers who hire our graduates. Since the questions are fairly general and give snapshots of our graduates, we will employ focus group techniques to obtain more specific information.

3. Assessment of Alumni Satisfaction and Preparation

Based on the items that result from our collaboration with the DIAC committee, a second survey instrument for the program alumni will be developed. The graduates will be asked of their perceived importance of each of the outcomes expressed in the survey form and how well they were educated or trained in the outcome at IUPUI. As in the previous case, focus groups will also be used for more refined feedback.

4. Assessment of Success of the Program

In addition to successful learning and successful work, we will measure the success of the program through statistical data that will help characterize the economic success of the program. We will track the following:

- Admissions to the program
- Graduation rates
- Job placement rates
- Advancements and mobility

E. Tabular Information

All tables list data for the first five years of the program as well as the eighth year, when the program is expected to reach enrollment equilibrium.

1. **Table 1: Enrollment and Completion Data**

2. **Tables 2A and 2B: Cost and Revenue Data**

3. **Table 3 New Program Proposal Summary**