

Program Creation Process Sign-Off

Program Title: Biomedical Technology Technician Program

Program Units: 25

Division: PSME

Proposing Faculty name(s): Oxana Pantchenko/Peter Murray

Type of Program:

_____ Transfer or XX_____ Workforce

Type of Award:

XX_____ Non-transcriptable certificate

_____ Certificate of Achievement

_____ AA/AS Degree

Documentation checklists:

Transfer documentation

_____ Catalog Description

_____ List of Courses

_____ Articulation & transfer data

_____ Identification of existing program(s) at CSU/UCs

_____ Completer Projections

_____ Identification of any additional resources needed to establish program (i.e. faculty, equipment, etc.)

Workforce documentation

X_____ Catalog Description

X_____ List of Courses

X_____ Completer Projections

X_____ Labor Market information

X_____ Identification of any similar program(s) in the area

X_____ Identification of any additional resources needed to establish program (i.e. faculty, equipment, etc.)

Transfer/Workforce Work Group Comments/Recommendations:

Recommend Approval. Program modeled after successful program in Minnesota. Existing courses are packaged into a certificate that gives students a credential that appeals to employers. The WWG sees excellent potential. The nontranscriptable certificate is a pilot that can lead to the creation of a certificate of achievement. If program does become transcriptable the WWG recommends DSN input. Program has wide appeal - both veterans and high school students.

Work Group Signature: _____

Date: 5/19/14

Supervising Vice President Comments/Recommendations:

There is strong support from the advisory committee, & the SLI.

Vice President Signature: _____

Date: 5-19-14

Planning & Resource Committee Comments/Recommendations:

PaRC Signature: _____

Date: _____

Division Curriculum Committee Comments/Recommendations:

Division CC Signature: _____

Date: _____

Following the review by the listed committees, this form should be forwarded to the Office of Instruction.

12/2/13

FOOTHILL COLLEGE
Credit Program Narrative
Biomedical Technology Technician Program Non Transcriptable Certificate

Item 1. Program Goals and Objective

The goal of this program is to graduate students who can successfully apply basic engineering principles and technical skills in support of engineers engaged in developing medical systems and products.

Item 2. Catalog Description

Did you know that there are more than 800 biomedical companies in the Bay Area? The Biomedical Technology Technician Program at Foothill College prepares students for entry level positions in this field. In this program, the students will learn how to design, manufacture and/or repair medical devices of various classes and developmental stages. The program consists of five engineering courses outlining fundamentals of medical device technology, FDA regulations, laboratory instrumentation, product development, rapid prototyping, and quality assurance.

Item 3. List of Courses

| Requirement | Crse # | Title | Units | CSU-GE | IGETC | Sequence |
|-----------------------------|----------|--|-------|--------|-------|--------------|
| Required Core (25 units) | ENGR 83A | Introduction to Biomedical Engineering | 5 | | | Yr 1, Fall |
| | ENGR 83B | Design and Manufacturing in the Biomedical Engineering Field | 5 | | | Yr 1, Winter |
| | ENGR 83C | Introduction to Medical Device Regulations | 5 | | | Yr 1, Winter |
| | ENGR 83D | Introduction to Quality Assurance | 5 | | | Yr 1, Spring |
| | ENGR 83E | Introduction to Documentation | 5 | | | Yr 1, Spring |

Required Major Total
TOTAL UNITS

25 units
25 units

Proposed Sequence:

Year 1, Fall = 5 units
Year 1, Winter = 10 units
Year 1, Spring = 10 units
TOTAL UNITS: 25 units

Item 4. Enrollment and Completer Projections

Each course will have approximately 20-35 students. The number of projected completers in the first year is 30 graduates. As this program grows and expands, the number of students each year is expected to double.

Item 5. Labor Market Information

According to the Economic Modeling Specialists International, in 2014, there are 772 biomedical technology/technologists jobs in the greater bay area region covering nine counties with 62 annual regional openings. By 2017, the number of jobs is expected to increase by 14.4% to 883. [economicmodeling.com]

According to the United States Department of Labor: Bureau of Labor Statistics, there are 42,300 medical equipment repairing jobs nationwide with 30% (much faster than the average of 11%) projected growth in

employment from 2012 to 2022. The projected increase in the number of jobs from 2012 to 2022 is 12,800. [<http://www.bls.gov/ooh/installation-maintenance-and-repair/medical-equipment-repairers.htm>]

Additionally, the United States Department of Labor: Bureau of Labor Statistics states that there are 19,400 biomedical engineering jobs nationwide with 27% projected growth in employment from 2012 to 2022. The projected increase in the number of jobs from 2012 to 2022 is 5,200. [<http://www.bls.gov/ooh/architecture-and-engineering/biomedical-engineers.htm>]

Item 6. Place of Program in Curriculum/Similar Programs

There are currently no similar programs at Foothill College. The curriculum requirements (25 required units) are in line with other Non-Transcriptable Certificates at the college. The program fulfills a needs expressed by the Science Learning Institute advisory board.

The program will use currently available physics and engineering laboratories at PSEC center. Additional laboratory equipment will be acquired through private monetary and equipment donations.

Item 7. Similar Programs at Other Colleges in Service Area

There are several other colleges that offer degrees and certificates in this area. They include; Ohlone Community College, Laney College, Solano Community College and Berkeley City College. Laney College was grant funded to focus their training on displaced workers. In 2012, Ohlone Community College awarded 2 degrees and 14 certificates, Laney College awarded 13 certificates, Solano Community College awarded 6 degrees and 4 certificates and Berkeley City College awarded 3 degrees and 3 certificates. In 2012, there were a total of 122 of regional completions across 8 institutions. This number of completions is expected to be reduced in 2013 since the City College of San Francisco is no longer offering Biomedical Equipment Technician Program in which they awarded 66 regional completions in 2012.

Additionally, our program has been modeled after the biomedical technician certificate program at Anoka Ramsey Community College in MN. This college has successfully graduated over 1000 students and demonstrated excellent job placement in their metropolitan area. Foothill College is has been actively communicating with the faculty of this program. Foothill College has been offered to be part of national consortium, which includes 12 community colleges across the country working actively on developing similar biomedical technologist programs.

Furthermore, the Engineering Faculty and the PSME Dean have visited Cal Poly San Luis Obispo twice in the last academic year. During the last visit, five of the proposed courses were identified as articulated to six biomedical engineering courses at Cal Poly San Luis Obispo. Additional connections were formed to develop joint projects that students from Foothill College and Cal Poly San Luis Obispo could work on together.

Moreover, in the last year, the Engineering Faculty and the PSME Dean have met with a number of venture investors, start-up companies' incubators, well established companies, a medical doctor and a medical device manufacturing facility in Silicon Valley to establish a connection for potential internships for graduates of this program.