

Program Creation Process Sign-Off

Program Title: Commercial and Industrial Technician Program

Program Units: 24

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 takes existing courses and packages them into a certificate that will give students a credential that appeals to employers. The WWG sees excellent potential. The nontranscriptable certificate allows for a pilot that, if successful, can lead to the creation of a certificate of achievement. If program does become transcriptable the WWG recommends DSN input. Programs allows for wide appeal - both veterans and students just out of high school.

Work Group Signature: _____

Date: 5/19/14

Supervising Vice President Comments/Recommendations:

Strong Support from Advisory Committee, & 4 yr institutions.

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
Commercial and Industrial Technician Program Non Transcriptable Certificate

Item 1. Program Goals and Objective

The goal of this program is to graduate students who can successfully develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design.

Item 2. Catalog Description

This program prepares students to apply basic engineering principles and technical skills in support of industrial engineers and managers. It includes instruction in optimization theory, human factors, organizational behavior, industrial processes, industrial planning procedures, computer applications, and report and presentation preparation. The program consists of five engineering courses which include engineering graphics, 3D printing, rapid prototype design, basic and advanced model making.

Item 3. List of Courses

Requirement	Crse #	Title	Units	CSU-GE	IGETC	Sequence
Required Core (25 units)	ENGR 6	Graphics	5			Yr 1, Fall
	ENGR 62A	Introduction to 3D Printing & Rapid Prototype Design	4			Yr 1, Fall
	ENGR 62B	3D Printing: Basic Model Making	5			Yr 1, Winter
	ENGR 62C	3D Printing: Advanced Model Making	5			Yr 1, Spring
	ENGR 62D	3D Rapid Model Making & Prototype Development	5			Yr 1, Summer

Required Major Total
TOTAL UNITS

24 units
24 units

Proposed Sequence:

Year 1, Fall = 9 units

Year 1, Winter = 5 units

Year 1, Spring = 5 units

Year 1, Summer = 5 units

TOTAL UNITS: 25 units

Item 4. Enrollment and Completer Projections

Each course will have approximately 20-35 students. The number of projected completers per 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 United States Department of Labor: Bureau of Labor Statistics, as of 2012, there are 39,200 industrial designers jobs nationwide with 4% projected growth in employment from 2012 to 2022.

The projected increase in the number of jobs from 2012 to 2022 is 1,700.

[<http://www.bls.gov/ooh/arts-and-design/industrial-designers.htm>]

The state of California is considered the second highest employment level in this occupation with 3,660 jobs. The bay area is considered the second highest top paying metropolitan area for this occupation with 330 jobs with average mean wage of \$88,950. [[http://www.bls.gov/oes/current/oes271021.htm#\(1\)](http://www.bls.gov/oes/current/oes271021.htm#(1))]

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 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.

This program is synergistic with the Fine Arts plan for an Industrial Design program. It will also be a pathway for engineering and biomedical engineering students.

Item 7. Similar Programs at Other Colleges in Service Area

According to the Economic Modeling Specialists International, in the greater bay area region, there are a total of 4 programs for industrial engineering technicians that have been established since 2010. They are Engineering/Industrial Management (15.1501), Manufacturing Engineering Technology/Technician (15.0613), Engineering Technology, General (15.000), and Industrial Technology/Technician (15.0612). There have been a total of 483 completions in 2012.

De Anza has a state of the art Manufacturing & CNC Technology Career Programs. Students from Foothill's program can continue into manufacturing and CNC operation.