

BACCALAUREATE OF APPLIED SCIENCE (BAS) INDUSTRIAL AUTOMATION

*Building upon more than 100 years of excellence,
Bakersfield College continues to contribute to the intellectual,
cultural, and economic vitality of the communities it serves.*

Presentation to the Academic Senate
February 11, 2015

Presenters:

Liz Rozell

Content Developed by the BAS Team

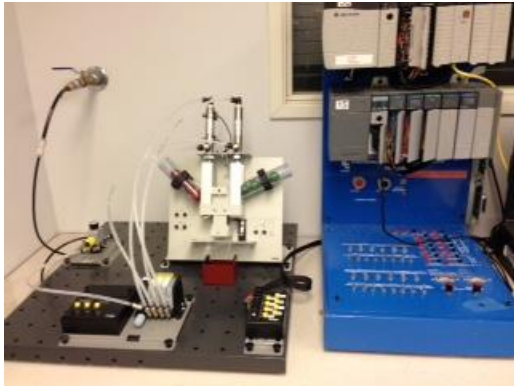
**BAKERSFIELD
COLLEGE**
1913 – 2013

DEFINING INDUSTRIAL AUTOMATION

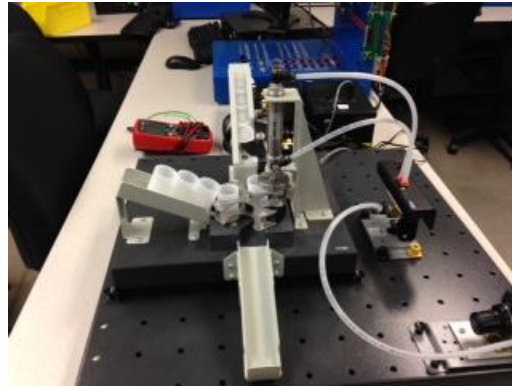
“The creation and application of technology to monitor and control the production and delivery of products and services...”

– Automation Federation (Industrial Association)

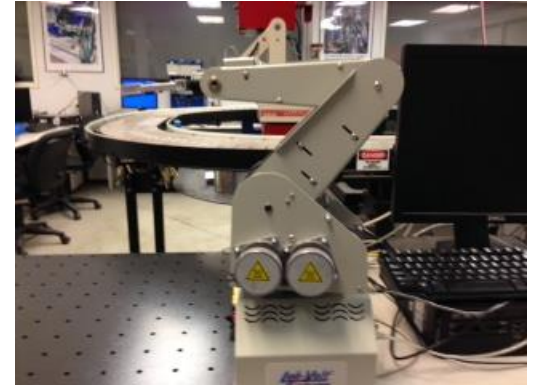
INDUSTRIAL AUTOMATION



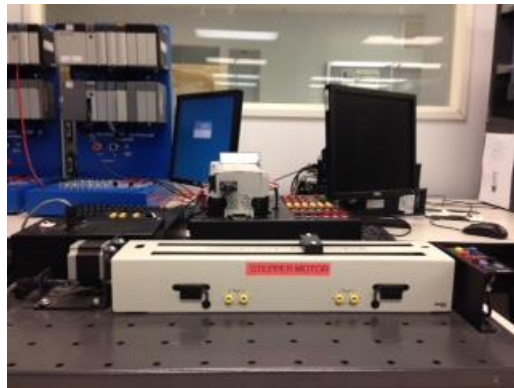
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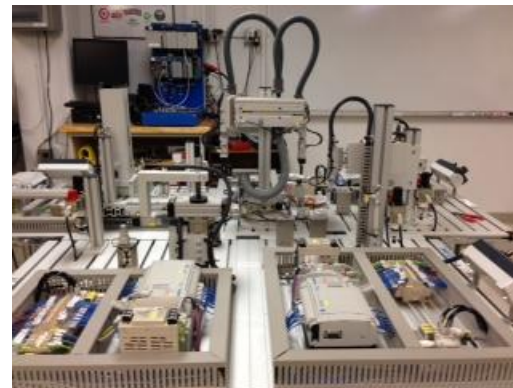
Filling



Robotic Arms



Motors



Assembly System

LOCAL AUTOMATION EMPLOYERS



Paramount Farms
Pistachios & Almonds



PROGRAM MISSION

To prepare individuals for technical management careers in industries which utilize automation, including the petroleum, manufacturing, logistics and agriculture industry sectors, in order to improve the regional economy.

CURRICULUM



Physics
Pre-calculus
Electronics
Industrial Automation (PLCs)

32% lab

CURRICULUM

Freshman Fall Semester	15 Units
POLS B1 (GE D)	3
Math B1a (GE B4)	4
Phys B2a (GE B1/B3)	4
ELET B1 (Basic Electronics)	4
Freshman Spring Semester	15 Units
ENGL B1a (GE A2)	3
Arts (GE C)	3
History Course (GE D)	3
ELET B5 (Programmable Logic Controllers)	3
ELET B70 (Mechanical Systems)	3

CURRICULUM



Freshmen
Year

Sophomore
Year

Economics

Communication

Process Control

Computer Integrated Manufacturing

30% Lab

CURRICULUM

Sophomore Fall Semester	16 Units
Arts (GE C)	3
Humanities (GE C2)	3
Critical Thinking (GE A3)	3
ECON B1 or B2 (GE D)	3
ELET B55a (Electric Motors – Controls)	4
Sophomore Spring Semester	16 Units
Biol B11 (GE B2)	4
Lifelong Learning (GE E)	3
Comm B1 or B8 (GE A1)	3
ELET B56 (Instrumentation and Process Control)	3
ELET B4 (Computer Integrated Manufacturing)	3

CURRICULUM



Freshmen
Year

Sophomore
Year

Junior Year

Technical Writing
Safety
Graphics
Applied Advanced Automation
Motion Control
Networks

52% Lab

CURRICULUM

Junior Fall Semester	15 Units
INDT B100 (Industrial Safety Principles and Management)	3
INDT B110 (Materials Science for the Technician)	3
INDA B110 (IA Networks)	3
INDA B114 (IA Measurement)	3
INDR B100a (Industrial Design Graphics I)	3
Junior Spring Semester	15 Units
GE Upper Division Technical Writing Course	3
INDR B100b (Industrial Design Graphics II)	3
INDA B112 (IA Systems)	3
INDA B116 (Industrial Motion Control)	3
INDA B120 (Industry Sector Seminar: Applied Automation)	3

CURRICULUM



Freshmen
Year

Sophomore
Year

Junior Year

Senior Year

Project Management & Budgeting
Systems Design & Integration
Quality assurance
Facilities Planning & Operations
Leadership & Entrepreneurship

54% Lab

CURRICULUM

Senior Fall Semester	15 Units
GE Upper Division	3
INDA B130 (Project Management and Budgeting)	3
INDA B140 (Systems Design and Integration)	3
INDA B122 (Industry Sector Seminar: Manufacturing and Production)	3
INDA B124 (Industrial Manufacturing Processes)	3
Senior Spring Semester	15 Units
GE Upper Division	3
INDA B132 (Leadership and Entrepreneurship)	3
INDA B134 (Quality Assurance)	3
INDA B135 (Facilities Planning and Operations)	3
INDA B141 (Systems Implementation)	3

PROGRAM TIMELINE: NOW

- Freshmen & sophomore classes available
- Begin hiring faculty
- Admittance in the program – completion of first two years

PROGRAM TIMELINE : FUTURE

- FALL 2016--Junior level classes available
- FALL 2017--Senior level classes available
- **MAY 2018--FIRST** graduating class

INDUSTRY ADVISORY BOARD

- Tunde Deru -- Linn Energy
- Brian Burt -- Chevron Energy
- Morgan Clayton -- Tel-Tec Security
- Jonathan Geersen -- Aera Energy
- Edwin Camp -- Kern Machinery
- Adam Stephens -- Lockheed Corp.
- Lisa Wong -- TJ Cross Engineers
- Ron Roberts -- Matrix Service
- Blair Pruett -- Kern Steel Fabrication