

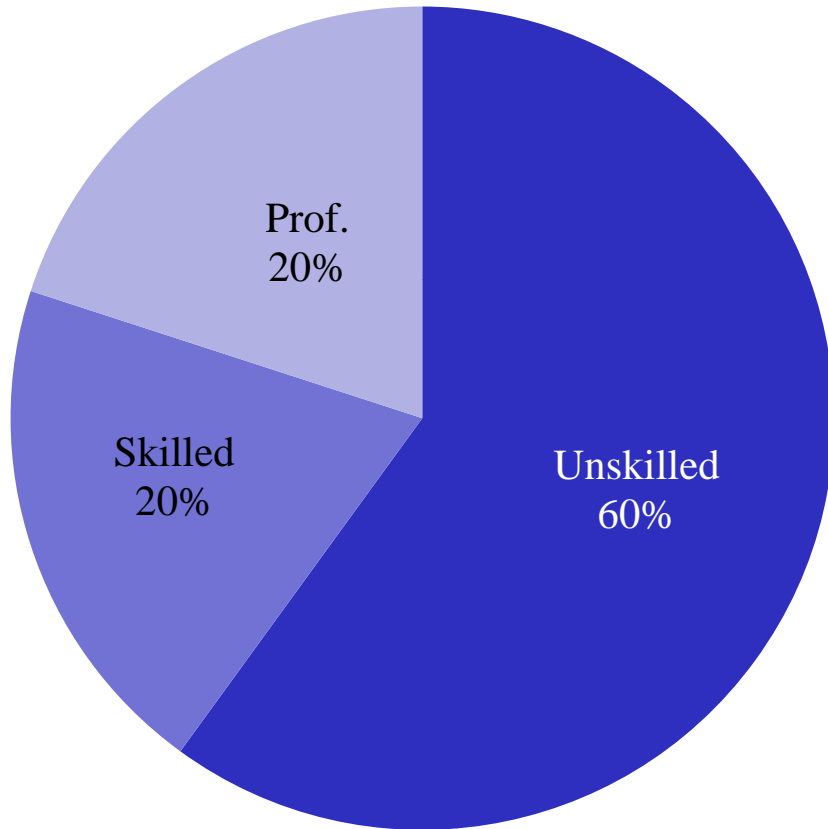
“Multi-Skill”

“Multi-Craft”

“Multi-Disciplinary”

US Workforce by Education Level

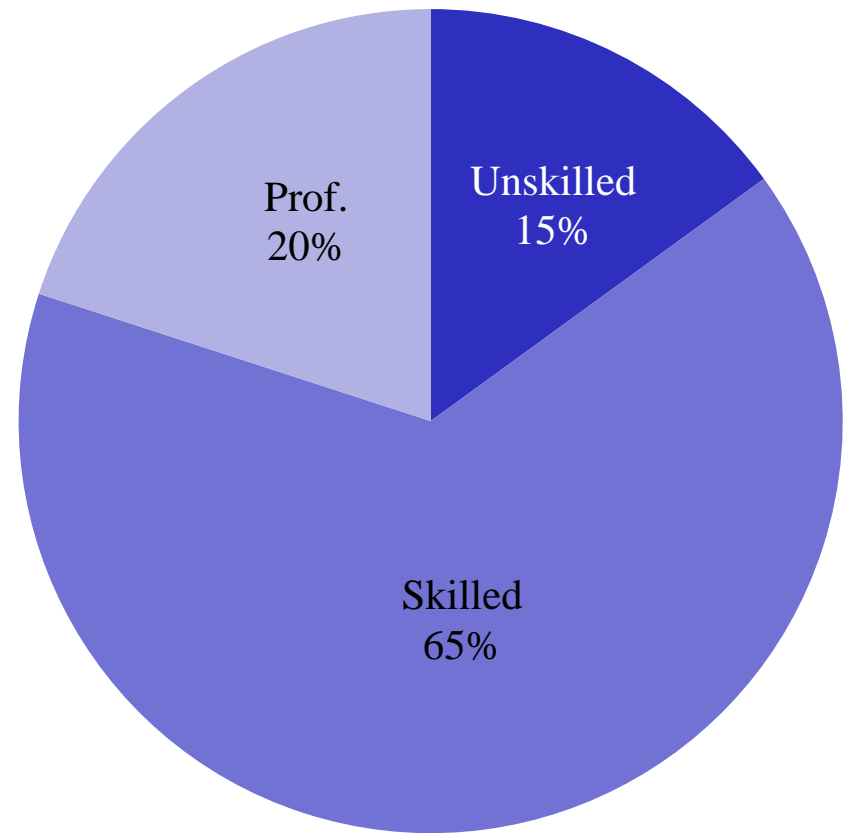
1950



Source: Career Pathways: Education with a Purpose, p. 35

y Education Level

2004



Source: Achieve Texas: Lifelong Success for All Students, p. 3

All professional and
middle-skill work
(85%) infused with
some aspect of
STEM.



**Frontier El Dorado
Refining Company**

**Operator
\$40K - \$60K**

**Instrumentation
\$40K - \$60K**

**Machinist
\$40K - \$60K**

**--Bill Kloeblen, Manager
Human Resources**

**Butler Community College
April 7 to 11, 2008**

**Entry level work – Equivalent of
high school degree and two
years of post secondary.**

“It used to be the sledgehammer mechanic. These days, the technology has advanced so much that our most important tool is our brain. It is more of a thinking man’s game now.”

**Jeff Nelson
Service Manager
CAT**



Knowledge Worker
who can work with hands.

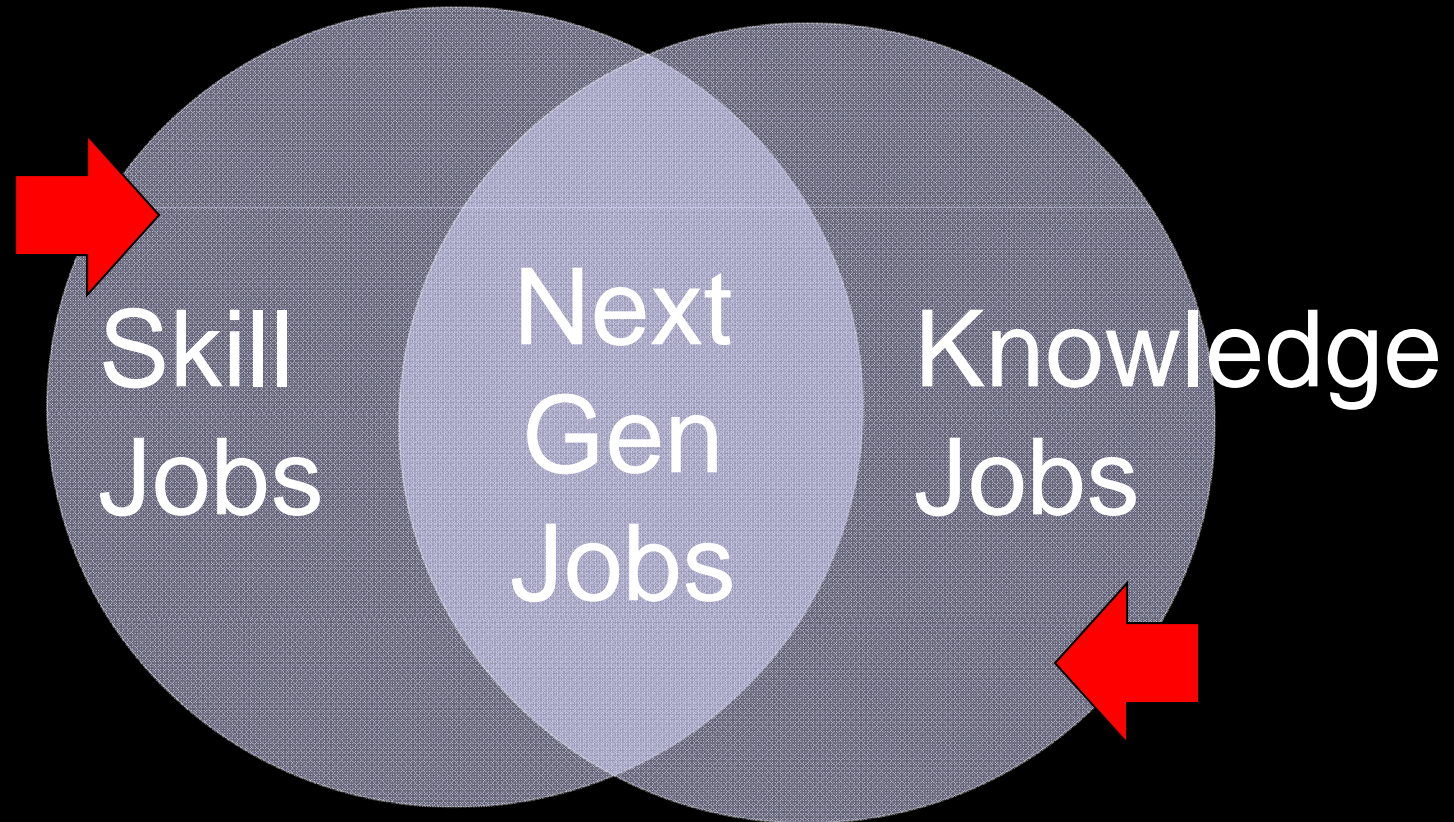


D-J Engineering
Engineering Design
\$50K - \$180K
Machinists & Sheet Metal
\$22K - \$42K
--Razaul A. Chowdhury, President

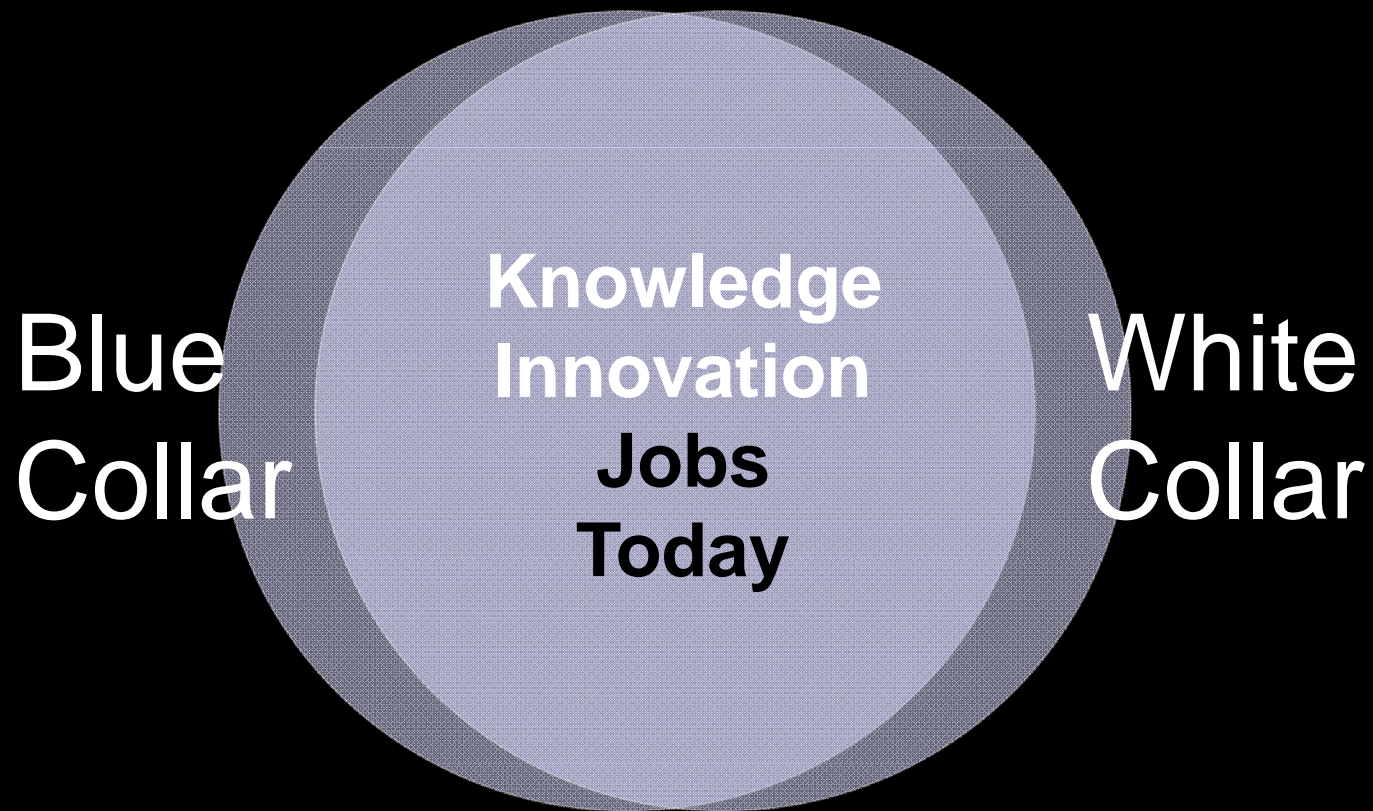


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Post Industrial Workforce Transformation



Post Industrial Workforce Transformation



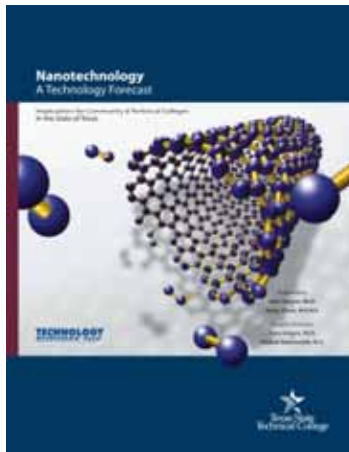
Council on Competitiveness: National Innovation Initiative

**100 million jobs are going to
be created in a lot of these
cross-disciplinary fields**

Samuel Palmisano (CEO, IBM): Business Week: 10.11.2004

TSTC Emerging Technologies

Nanotechnology



Fuel Cells



Digital Games



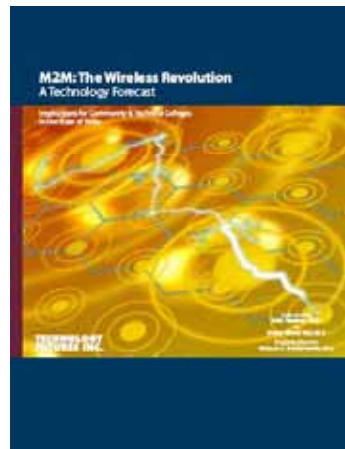
Homeland Security



ADM, Hybrid, MEMS, Computer Forensics



Wireless: M2M



Biotechnology



Home Technology Integration



Mechatronics



Forecasting.tstc.edu

Report on Competitiveness: National Innovation Initiative

100 million jobs are going to
be created, 50% of these
cross-disciplinary fields

Samuel Palmisano (CEO, IBM): Business Week

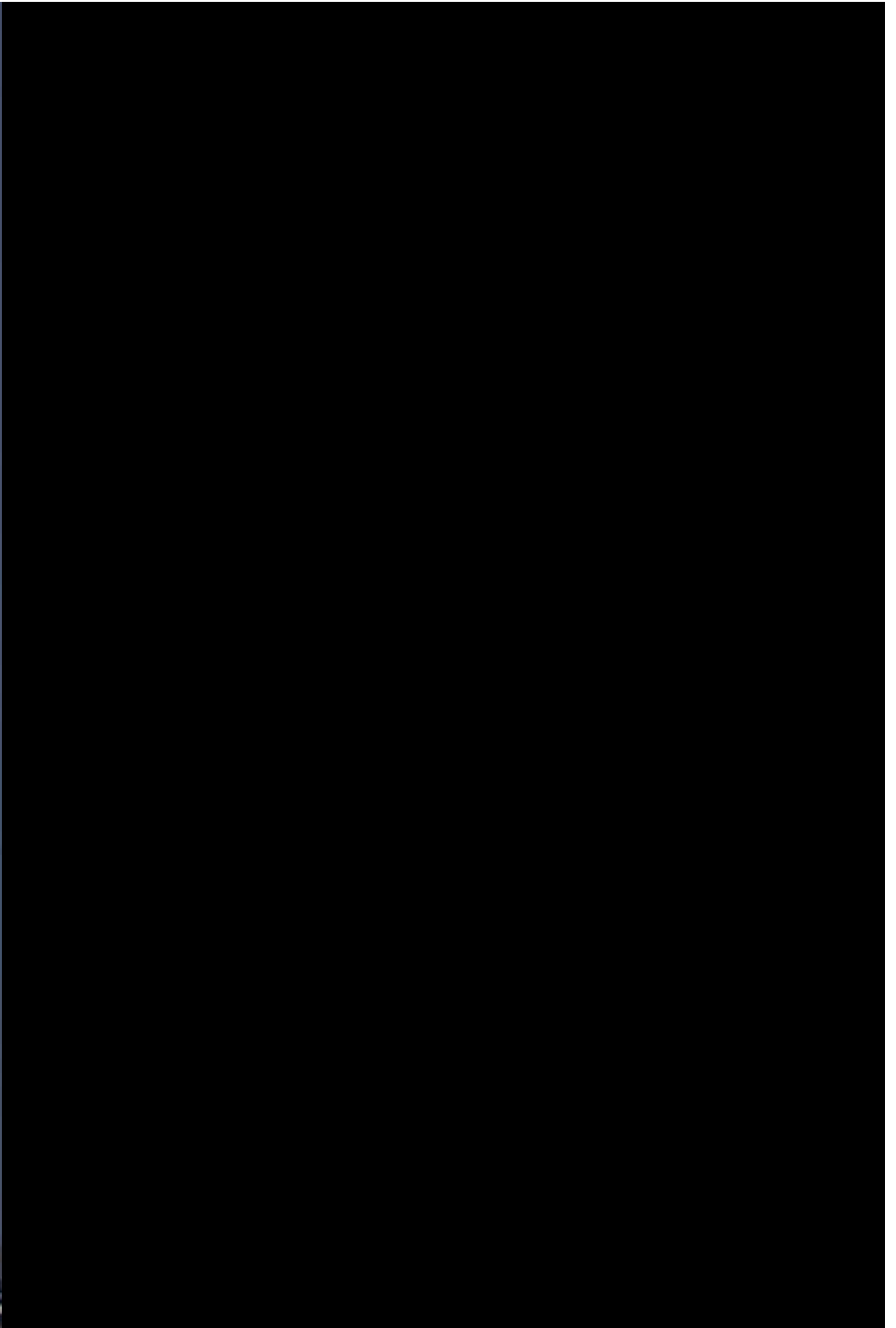
04

This is today's workforce.

“We live in academic silos. The world does not work that way.

If we work on **GREEN**, sustainability, **we have to engage educational practitioners from across disciplines.”**

President Hargis, Oklahoma State University







**“Turbine Techs earn
\$28-\$40K a year...
Many techs earning
\$40K - \$80K a year with
OT.”**

– Bryan Gregory, Jr.



11.1.2006, TSTC West TX, Sweetwater



“In most industries you have electricians, mechanics and IT, in wind, you are expected to do everything.”

-- Bryan Gregory, Jr.



11.1.2006, TSTC West TX, Sweetwater

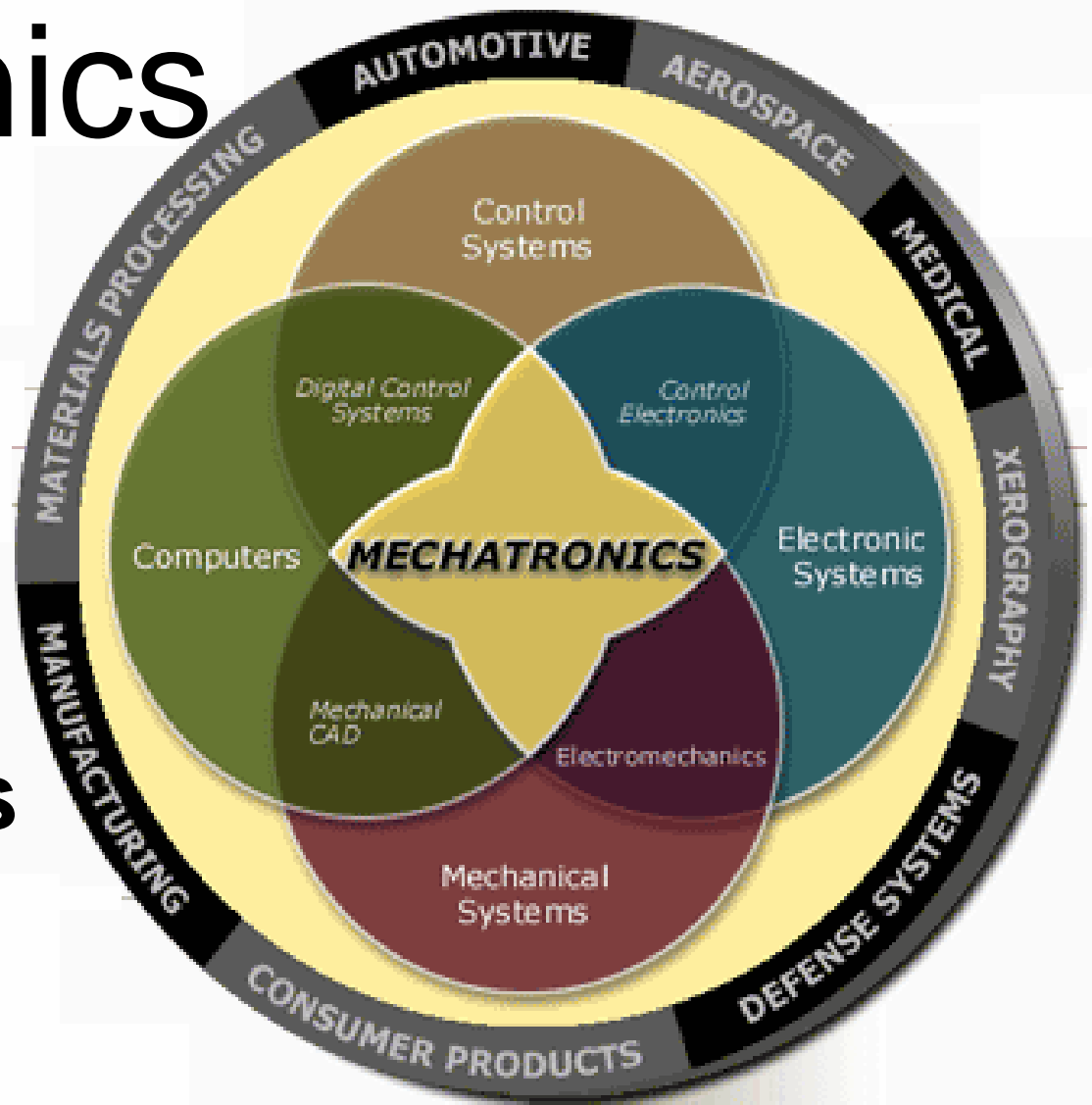


Mechatronics

The synergistic combination of **mechanical engineering, electronics, control systems and computers.**

Mechanical, Aerospace, and Nuclear Engineering Departments at RPI

All Contents Copyright(C) 2001 Mechatronics Lab at RPI



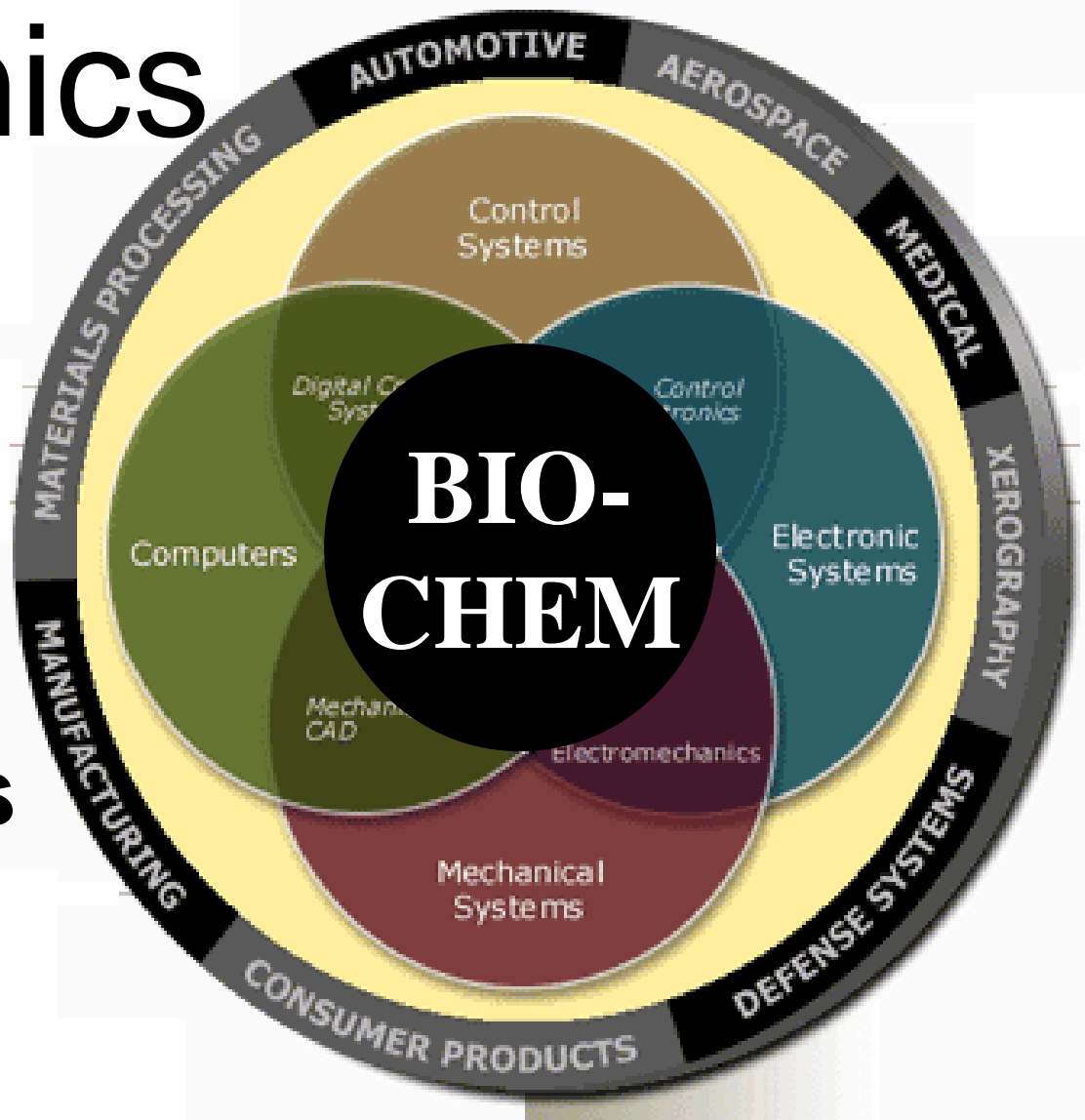


Mechatronics

The synergistic combination of **mechanical engineering, electronics, control systems and computers.**

Mechanical, Aerospace, and Nuclear Engineering Departments at RPI

All Contents Copyright(C) 2001 Mechatronics Lab at RPI



Wesley Medical Center

RN - \$38K - \$60K

-- Don Morris, HR



**Butler Community College
April 7 to 11, 2008**

**“...critical decision making skills are what we are looking for...
and every position in the hospital needs basic computer skills.”**

Krista Thacker, Manager Staffing Resources, Via Christi, Wichita Health Network



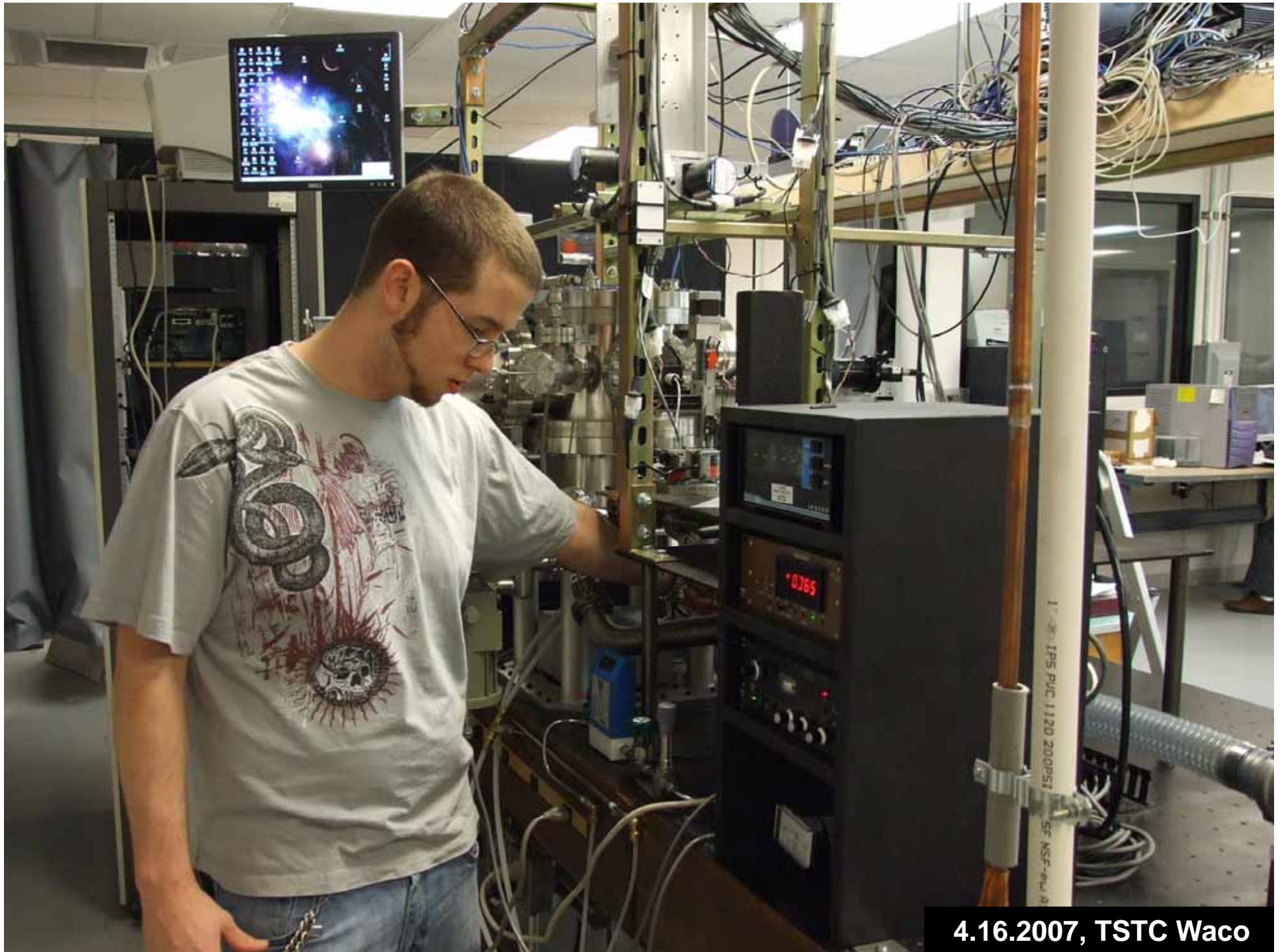
**Wesley Medical Center,
Butler Community College
April 7 to 11, 2008**

**Wesley Medical Center, Butler Community College
April 7 to 11, 2008**



“In 2006, demand was off the charts. Every graduate had a job 6 months before graduation. Chemical Technology Graduates typically start at \$35K and it is not uncommon for them to make \$60K-to-\$70K per year.”
–Robert Hernandez, TSTC





4.16.2007, TSTC Waco

National Center for Agricultural Utilization Research



Next Gen Jobs

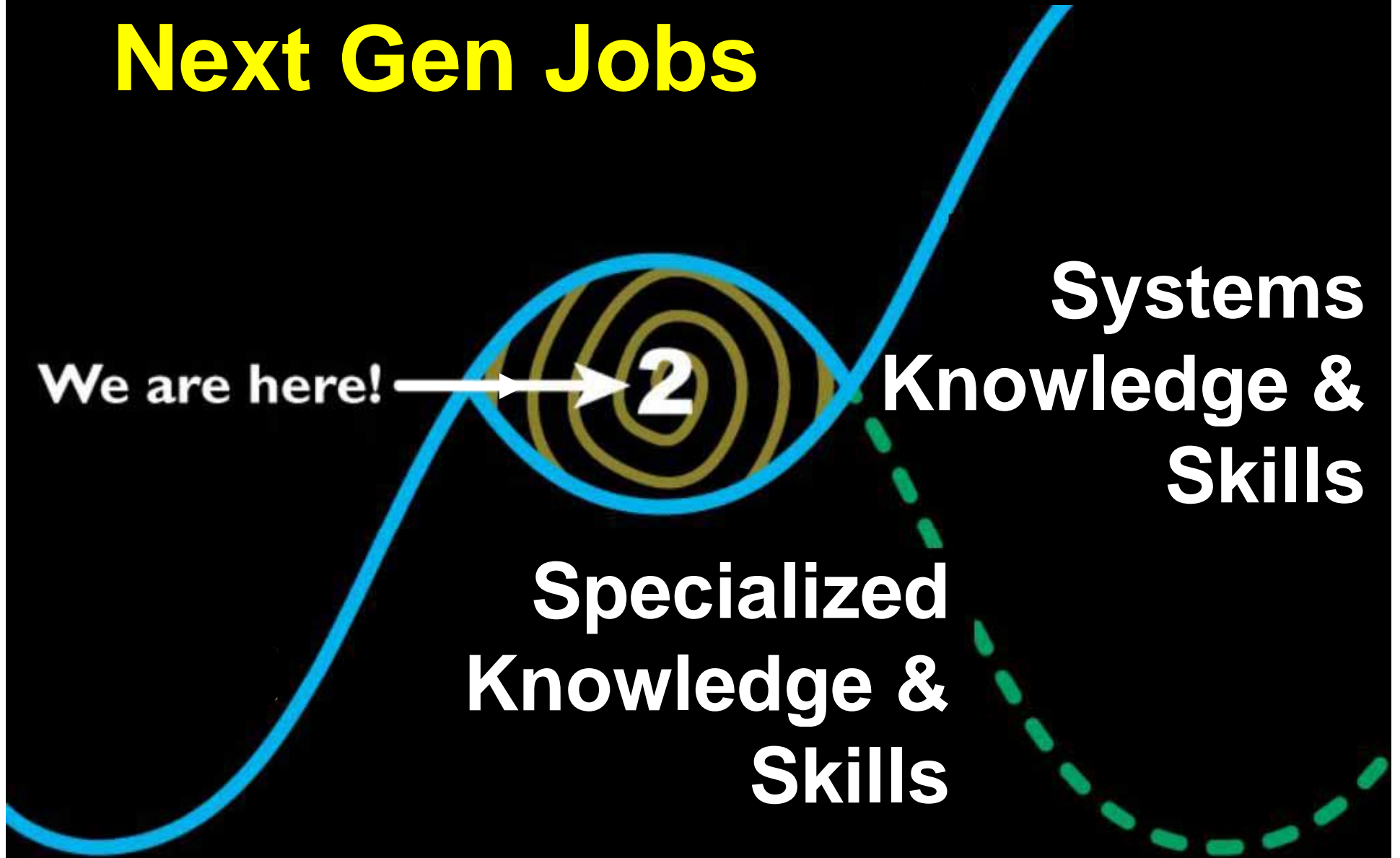
We are here!



2

Specialized
Knowledge &
Skills

Systems
Knowledge &
Skills



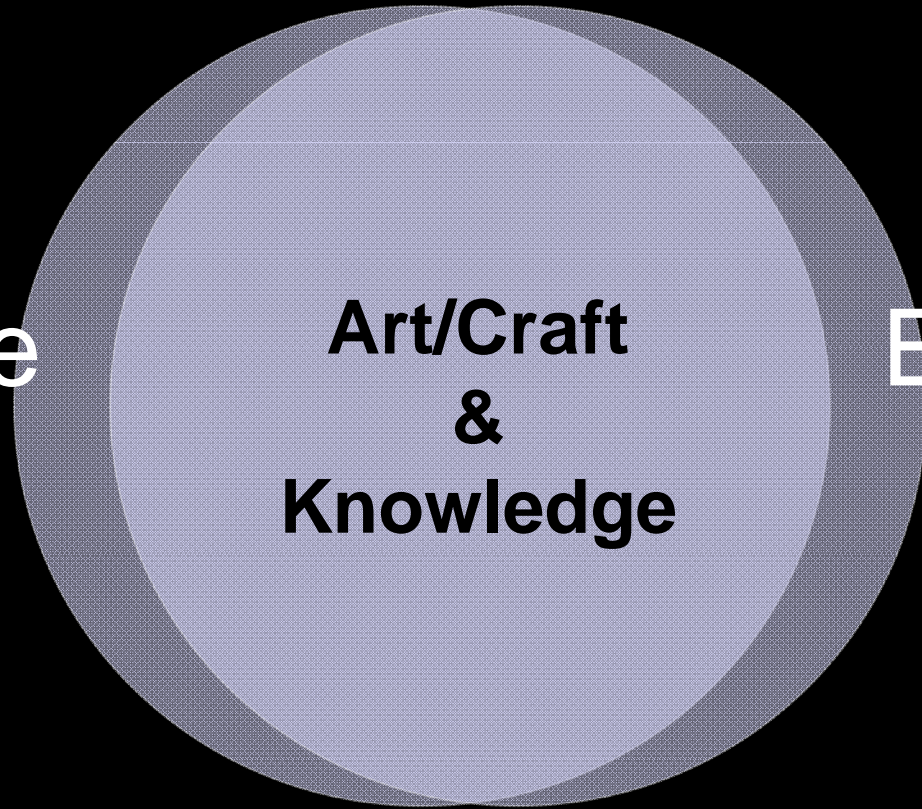
Implications

Mind Body Unification

Techné

Art/Craft
&
Knowledge

Episteme



A close-up photograph of a person's face, where the skin is replaced by a world map. The person has a striking green eye, looking directly at the camera. The map shows continents in various shades of brown and green, set against a deep blue background representing the oceans. The person's lips are visible at the bottom right, painted in a dark purple or blue color. The overall image has a dramatic, high-contrast aesthetic.

Technology

Jobs, Jobs, Jobs

Next Generation CTE

**Kansas: Butler
Community
College**

Unified pathway for
technician,
technologist and
engineer.



D-J Engineering
Engineering Design
\$50K - \$180K
Machinists & Sheet Metal
\$22K - \$42K
--Razaul A. Chowdhury, President



Butler Community College
April 7 to 11, 2008



Butler Community College
April 7 to 11, 2008

Real world
knowledge, skills,
tools, problems
and processes

Orlando:

Central

Florida

Tech

Corridor

STEM

plus

Arts

Ocoee Demonstration Middle School





Orlando Tech – High School Program

Orlando FIEA University Program



8th grade to
Ph.D.

Pathways
for **TEAMS**

Denton ISD, TX:
4 year and 2 year
pathways for dual
concentrators
(Tech Prep)



Pre Architecture



Pre Law



Pre Med



Arts, A/V Tech & Communications



Welding Tech



CISCO Network Tech



CNC Machinist



**Arts, A/V Tech &
Communications**