

Developing a Model for Seamless STEM Career Pathways

SAME-TEC 2008
Advanced Technological Education Conference

Austin, Texas
July 30, 2008

Texas Tech University
South Plains College
Lubbock Independent School District
Lubbock Economic Development Alliance

Requirements

- ❑ **Local business & industry**
 - ❑ **What do business & industry need**
 - ❑ **Interest & support for program**
- ❑ **Local workforce agencies**
- ❑ **Program champions at each level**
- ❑ **Support from institutions**
- ❑ **Team effort**

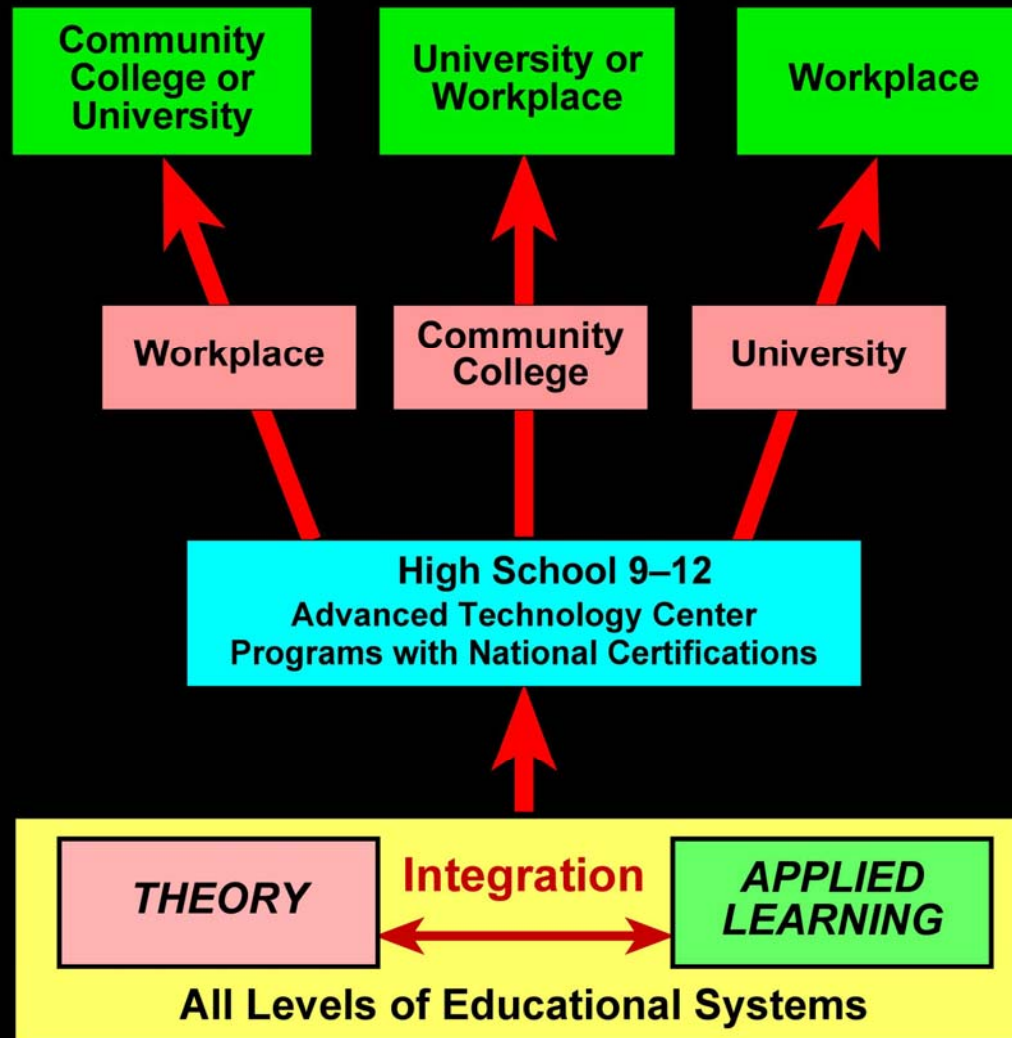
Objectives

- ❑ **Students complete high school**
- ❑ **Students into college programs**
 - ❑ **Especially underrepresented students**
- ❑ **Students into industry**
- ❑ **Multiple educational pathways**
 - ❑ **Options & flexibility**

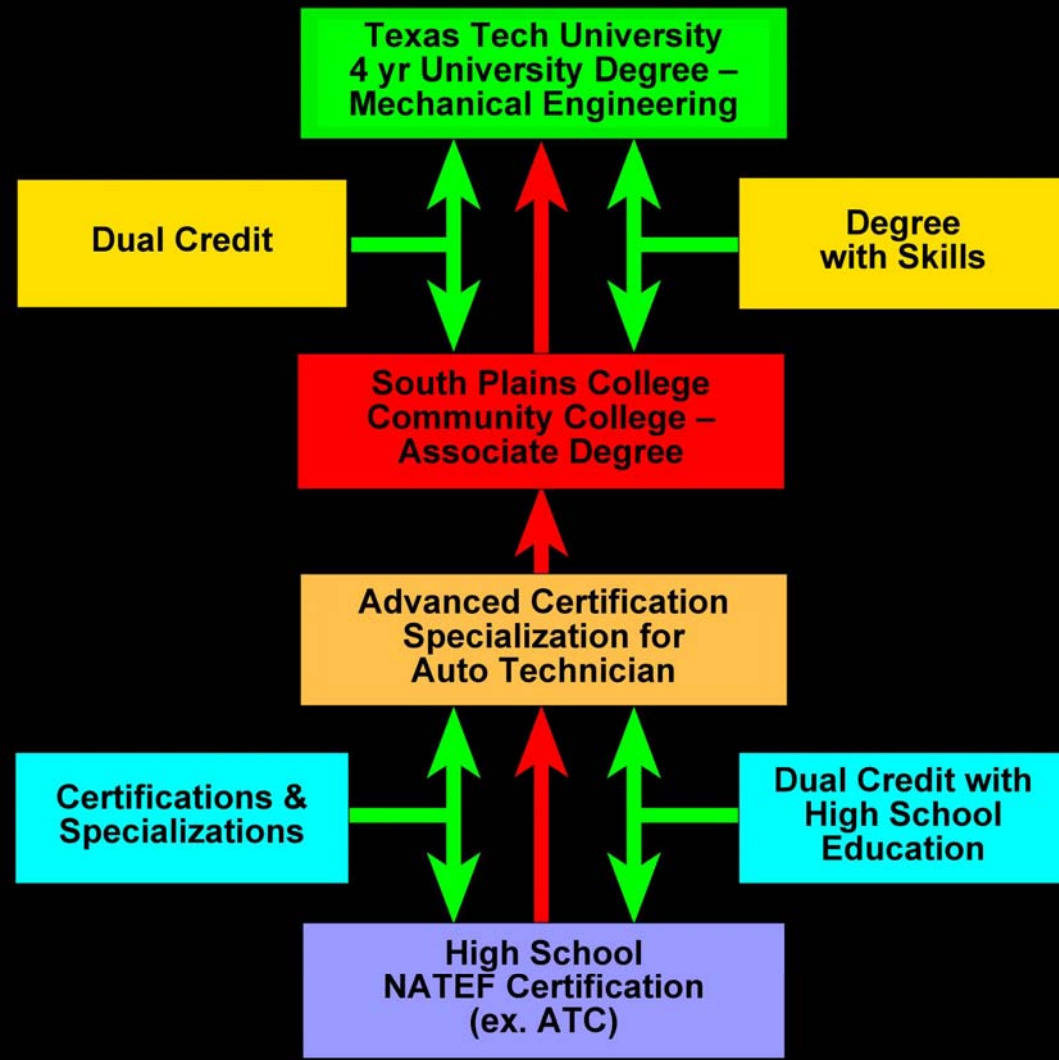
Objectives

- ❑ Hands-on labs to reinforce theoretical studies
- ❑ Joint development of classroom & laboratory learning experiences
- ❑ Provide student mentoring
- ❑ Provide financial assistance

Educational Model



Seamless Auto Tech Program



Lubbock Ind School District

- ❑ **Byron Martin Adv Tech Center**
- ❑ **NATEF Certifications**
- ❑ **Meets national industry standards**
- ❑ **Students complete HS program**
 - ❑ **They have marketable skills**
 - ❑ **They are college ready**

Lubbock Ind School District

- ❑ **Mentoring by TTU students**
- ❑ **Monitored part-time jobs**
- ❑ **Transfer credits to SPC**
- ❑ **Participate in projects with SPC and TTU students**

South Plains College

- ❑ **Levelland & Byron Martin Campuses**
- ❑ **NATEF Certifications**
- ❑ **Meets national industry standards**
- ❑ **Students complete SPC program with higher level marketable skills**
- ❑ **Associates of Science in Engineering**

South Plains College

- ❑ Transfer credits to TTU
- ❑ Scholarships for students
- ❑ Participate in projects with LISD and TTU students
- ❑ Ford — Hybrid Escape to SPC

South Plains College

Pete Bandoske, Ford manager

All of our field engineers, including myself, attended an auto tech program and then continued their education to get a B.S. This is exactly the type employee we are looking for. We need engineers who have a working, hands-on knowledge of vehicles.

Texas Tech University

- ❑ **Students enter Mechanical Engineering curriculum**
 - ❑ **Have hands-on experience**
- ❑ **Transfer credits from SPC**
- ❑ **Scholarships available**
- ❑ **Graduate study available**

Texas Tech University

- ❑ **Advanced Vehicle Engineering Lab**
- ❑ **Vehicle research programs**
- ❑ **US DOE sponsored vehicle design competitions**
- ❑ **Many graduates now working at transportation related companies**

LEDA Involvement

- ❑ **Developing workforce for West Texas**
- ❑ **Interface with local industry**
- ❑ **Organization and communication among the other institutions**

Advisory Board

□ **Local, state & national membership**

Jim Lowder, Chair, evstar technology, inc.

Annette Sykora, Smith South Plains, Chair of Nat Auto Dealers Assoc

John Zwiacher, GM, Scoggin-Dickey Buick Chevrolet Hummer

Broc Yakel, GM, West Texas Peterbilt

John Hall, Owner, CMH Manufacturing

Rob Blair, Technical Dean, South Plains College

Don Haragan, Professor, Texas Tech University

Jack Booe, LISD

Dub Taylor, Director, State Energy Conservation Office

Don Lewis, Fleet Manager, Texas Department of Transportation

Bob Larsen, Center for Transportation Research, Argonne Nat Lab

Hoang Trong, Econoline Program Management, Ford Motor Company

Cynthia A. Svestka, Powertrain/Vehicle Integration, General Motors

Advisory Board

- Provides guidance for program
- Focus program on student success
- Ensure program meets industry's needs
- Assist team in finding resources
- Assist team in publicizing program
- Identify opportunities for program improvement

Mentoring

- ❑ **Students, faculty & industry mentors**
- ❑ **Help with homework**
- ❑ **Discuss technical topics**
- ❑ **Communications**
- ❑ **Teamwork**
- ❑ **Discuss issues and problems**
- ❑ **Just "hang out"**

The Future

- ❑ **Replicate program**
 - ❑ **Additional community colleges**
 - ❑ **Additional high schools**
 - ❑ **Additional technical areas**
 - ❑ **Additional universities**

Website

www.tstem.ttu.edu/seamless/seamlessauto