LOOKING to the Regions PAST and to the FUTURE for the State of TEXAS

WESTERN TEXAS COLLEGE,  WWW.WTC.EDU,  SNYDER, TEXAS
WESTERN TEXAS COLLEGE STATS

- 2154 STUDENTS
- 2014/2015 GRADUATING CLASS
  - 335 DEGREES -- 26%+ Transferred / 21%+ STEM
  - 153 CERTIFICATES
- Hispanic 31.2%
- 41 OF 50 STATES
- 204 OF THE 254 TEXAS COUNTIES
- OVER 25 FOREIGN COUNTRIES

LOOKING to the Regions PAST and to the FUTURE for the State of TEXAS

WESTERN TEXAS COLLEGE, WWW.WTC.EDU, SNYDER, TEXAS
ENERGY & AG SUMMIT APPLICATIONS

- STEM ACADEMIC CAREERS
  - STEM PROGRAMS -- STEM GRADUATES
- TECHNOLOGY -- PROJECT BASED LEARNING
  - TECHNOLOGY FIELDS
    - PETROLEUM TECHNOLOGY A.A.S
      - CONSUMPTION -- 20 HP = 14KW/hr
      - POWER USE = 5000KW to 10,000KW/month/PUMP
    - PROCESS TECHNOLOGY A.A.S.
      - PRODUCTION -- MW or greater
      - PROCESSES -- variable
    - LINEMAN -- CERTIFICATE
      - INSTALLATION
      - MAINTENANCE
COLLEGE PROGRAM EXPANSIONS

- **TEXAS**
  - JET GRANT -- College on the Square
    - FIRE SAFETY TRAINER -- Safety Plus, Inc. and WTC
  - Skills Development Fund
    - -- Tank battery, tools, cut away, etc.

- **U.S. DEPARTMENT OF EDUCATION**
  - TITLE III STEM GRANT
  - TITLE V GRANT -- 2 yr WIND -- Texas TECH transfers

- **DONATIONS**
  - LAND -- OVER 120 ACRES (total)
    - Cavendar (Cavendar boots)
  - EQUIPMENT
    - BIG COUNTRY ELECTRIC -- discounted line, parts, etc.
    - KIMRAY, INC. -- 6 cut away valves
    - CHEVRON, INC. -- Compressor, Condensation units, separators

- **OTHER -- Bond Issues.........**
Berry L. Jordan, Ph.D.
PROJECT DIRECTOR, STEM GRANT

HSI STEM GRANT:
Expanding STEM pathways for Hispanic and low income students
**HSI STEM GRANT**

- **YR 1** -- **PETROLEUM TECHNOLOGY A.A.S.**
  + 32 KW SOLAR POWER -- PRODUCER
  + Polaris H.O.T. Unit --- CONSUMER

- **YR 2** -- **REMODEL SCIENCE BUILDING**
  + FIELD SITE
    - 2200 FT POWER LINE COLLABORATION

- **YR 3** -- **PROCESS TECHNOLOGY A.A.S.**

- **YR 4** -- **ENGINEERING PROGRAM START**
  + CURRENT 342 STUDENTS – PRE-REQUISITES

- **YR 5** -- **STEM OUTREACH**
HSI STEM GRANT YEAR 3
HSI STEM GRANT YEAR 3 / SKILLS GRANT
HSI STEM GRANT YEAR 5
HSI STEM GRANT YEAR 5
HSI STEM GRANT YEAR 5

- STEM OUT REACH
  - CONCEPTS OF SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH

- REGIONAL STUDENTS AND CITIZENS
  - PRESENTATIONS FOR AREA SCHOOLS
    - Various Texas Workforce Venues
      - WORLD OF WORK – Abilene, Texas
      - JUMP START YOUR FUTURE EXPO, Snyder, Texas
  - PRESENTATIONS AT AREA CIVIC GROUPS
    - LIONS
    - ROTARY
    - KIWANIS
STEM OUTREACH  ELECTRONIC CIRCUITS

- DISCRETE COMPONENT
  - 8-PIN DUAL IN-LINE CONFIGURATION
- TIMER
  - Electronic devices
- 555
  - DEVELOPED IN 1971
  - CHEAP
- UBIQUITIOUS
FIVE 555’S FOR PRINCIPLES

BLINKING LEDS
ALTERNATING BLINKING LEDS
FADE IN – FADE OUT LED
VARIABLE TONE GENERATION
??
FIVE 555’S FOR PRINCIPLES

CONCEPTS OF:
FOLLOWING DIRECTIONS
INSTRUMENTATION
CREATIVE THINKING
TEAM WORK
ELECTRONICS COMPONENTS –
(RESISTANCE, WIRING, CAPACITANCE, ETC.)
OBSERVATION / DATA COLLECTION
MATH FUNCTIONS
MATH FUNCTIONS

- BLINKING LED
  + SPIKES -- SAW TOOTH WAVE

- ALTERNATING BLINKING LED’s
  + SQUARE WAVE FUNCTIONS

- FADE-IN FADE-OUT
  + SINE WAVE FUNCTIONS

- SOUND TONES FREQUENCY GENERATOR
  + ELECTRONICLY GENERATED MUSIC

- ??
  + SUGGESTIONS?
STEM OUTREACH  BIOLOGICAL SYSTEMS

- CHROMATOGRAPHY
  + NATURAL DRINK COMPONENTS
- SEPARATION OF CHROMOPHORES
  + REDS AND BLUES, YELLOWS?
- VISUALIZATION VIA UV LIGHTS
EFFECTORS OF CHANGE – STUDENTS

- STEM GRADUATES -- TRANSFERRING
  - STEM FIELD APPLICANTS
- TECHNOLOGY JOBS
  - ENERGY – PETROLEUM
  - ENERGY DELIVERY – LINEMAN
  - ENERGY USES – PROCESS TECHNOLOGY
YES

LOOKING to the Regions PAST
and to the FUTURE
for the State of TEXAS

WESTERN TEXAS COLLEGE,  WWW.WTC.EDU,  SNYDER, TEXAS