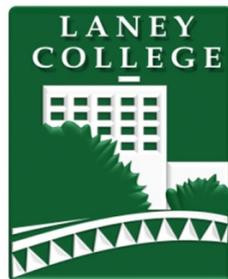


GPTC BAS PROGRAM DEVELOPMENT CASE STUDY



National Science Foundation
Advanced Technological Education
B.E.S.T. Center Winter Workshop 2013



BAS Program Development

June, 2007

B.L. hired at GPTC as Air Conditioning Instructor with goal of creating new, innovative programs, starting with Commercial Refrigeration – Began work immediately on commercial refrigeration program research & outline

Challenges to surmount:

- Position filled was for AC instructor only
- Stated goal of writing new programs, but
 - there wasn't space and no guarantee
- Teach a full slate of AC courses while writing program proposals in spare time
- Motivating others to use technology &

BAS Program Development

November, 2007

“Vision for the Future”
meeting with President,
VPs, Deans, and
Division Chair in an
attempt to gain support
across collegiate
administration & align
goals

June, 2007



Challenges to surmount:

- Gain trust from administration in our ability to deliver – previous RS Andrews project helped in this
- Show administration the industry support
- Show uniqueness and bragging rights
- Show the pathway to implementation

Slide from “Vision for the Future” meeting

Vision for the Future



Moving Forward

- **Existing Program Strength (Discussed earlier)
Students / Enhancements / Placement**
- **Addition of Commercial Ref. & Controls Programs**
- **Continued Progress as Commercial Refrigeration &
Controls Programs Develop**
- **Employment of New Teaching Technologies**
- **Additional Space Requirements**
- **Additional Instructors & Advisory Committee
Members**
- **Capital Improvements**
- **Corporate Partnerships / Donations**

Commercial Refrigeration

- **Submission Complete – Diploma / Degree**
- **Only Program in GA – Very Few in SouthEast**
- **Strong Interest / Strong Demand**
 - **Existing Students**
 - **Graduates**
 - **Industry**
- **Huge Demand for Qualified Technicians**
 - **Supermarkets / Vendors / Food Service / Etc**
- **Estimated 125,000 technician shortfall by 2010**
- **Planning Stage – Space Layout / Curriculum**

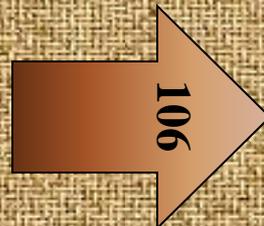
Slide from "Vision for the Future" meeting

Control Systems

- **Working on Submission – Diploma / Degree**
- **Meeting with Industry Leaders**
 - **Attempting to Employ Existing Models**
- **Only Program in GA – None Regionally**
- **Strong Interest / Strong Demand**
 - **Existing Students**
 - **Graduates**
 - **Industry**
- **Huge Demand for Qualified Technicians**
 - **Any Building of Size has Controls Systems**
 - **HVAC / Lighting / Fire Alarm / Intrusion / Video Surveillance**
- **Integration of Multiple Building Systems is Driving Demand for Highly Skilled Technicians in Controls**
- **Skills are Highly Technical – Starting Salaries Very High**

Diploma / Degree Paths

ACT 100
ACT 101
ACT 102
ACT 103
ACT 104
ACT 105
ACT 106



Controls
Degree



Refrigeration
Degree



HVAC
Degree



Controls
Diploma



Refrigeration
Diploma



HVAC
Diploma



BAS Program Development

Fall, 2007

Commercial
Refrigeration(CR)
Advisory Board
established

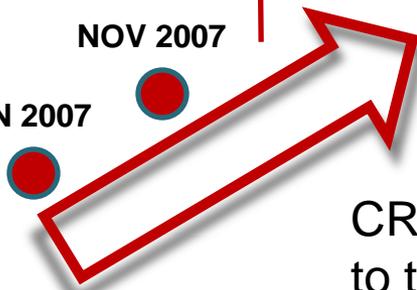
Timing of CR industry board formation:

- After BAS approval by TCSG
- After laboratory space identified
- After course outlines were developed
- After establishing vision for program
- Prior to laboratory build-out
- Prior to courses being taught

CR advisory board assisted greatly in motivating administration to take action (see **Ernie Thayer letter to President in pdf packet**)

NOV 2007

JUN 2007



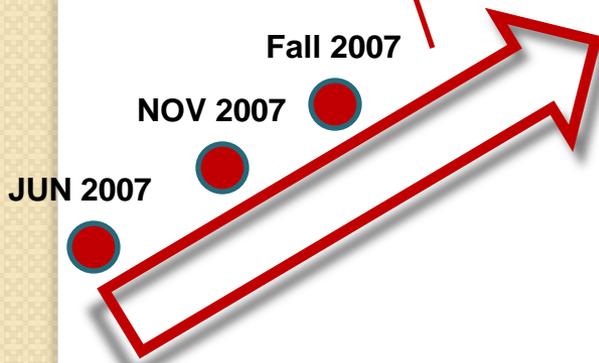
BAS Program Development

Fall, 2007

We received approval from administrators to proceed with development of commercial refrigeration program, conducted research and developed a proposal which was approved by the college programmatic review committee, and it was then sent on to the TCSG system of GA where it was approved

Key elements in TCSG approval:

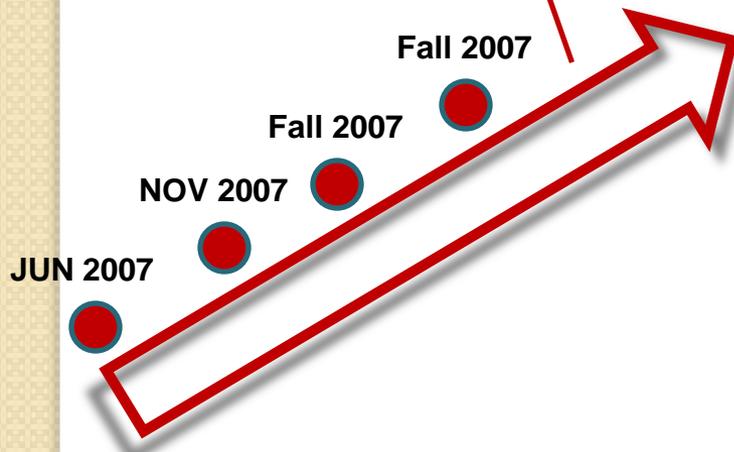
- Minimal State of GA dollars needed
- Built with large % of existing courses
- Market analysis demonstrating need
- Industry support
- Student interest / potential for growth
- Qualified faculty to teach
- Allocated space for instruction



BAS Program Development

Summer, 2008

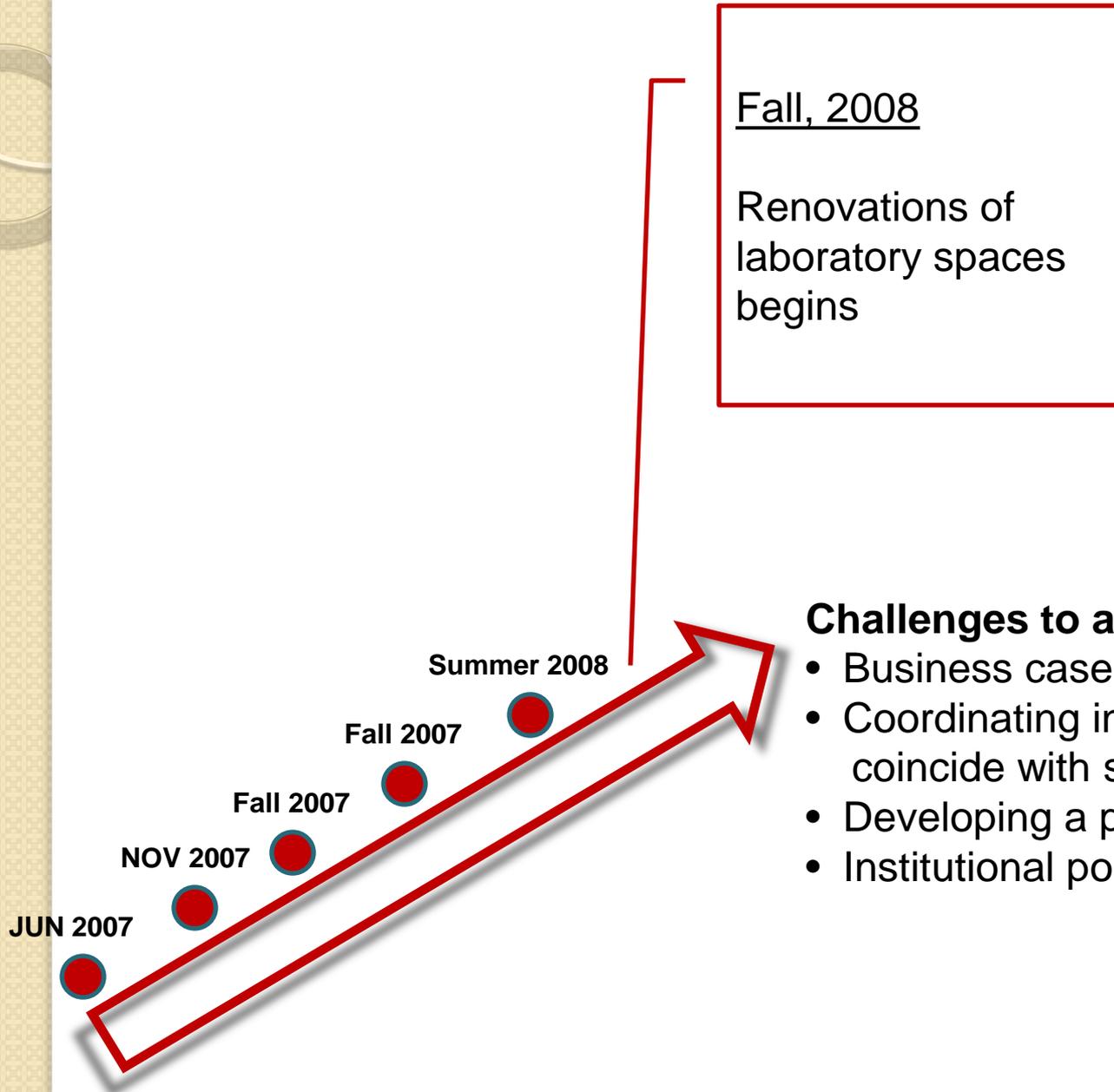
We researched the need for a Building Automation Systems program, developed a proposal, and gained approval from the college review committee, submitted it to the state and subsequently gained approval from the TCSG system of GA



Key elements in TCSG approval:

- Minimal State of GA dollars needed
- Built with large % of existing courses
- Market analysis demonstrating need
- Industry support
- Student interest / potential for growth
- Qualified faculty to teach
- Allocated space for instruction

BAS Program Development



Challenges to attaining space:

- Business case relating to student #'s
- Coordinating industry donations to coincide with space availability
- Developing a plan for build-out
- Institutional politics

11/11/08



12/29/08 – Ready for new floor



1/5/09 – New floor is down



2/20/09 – Cases arrive



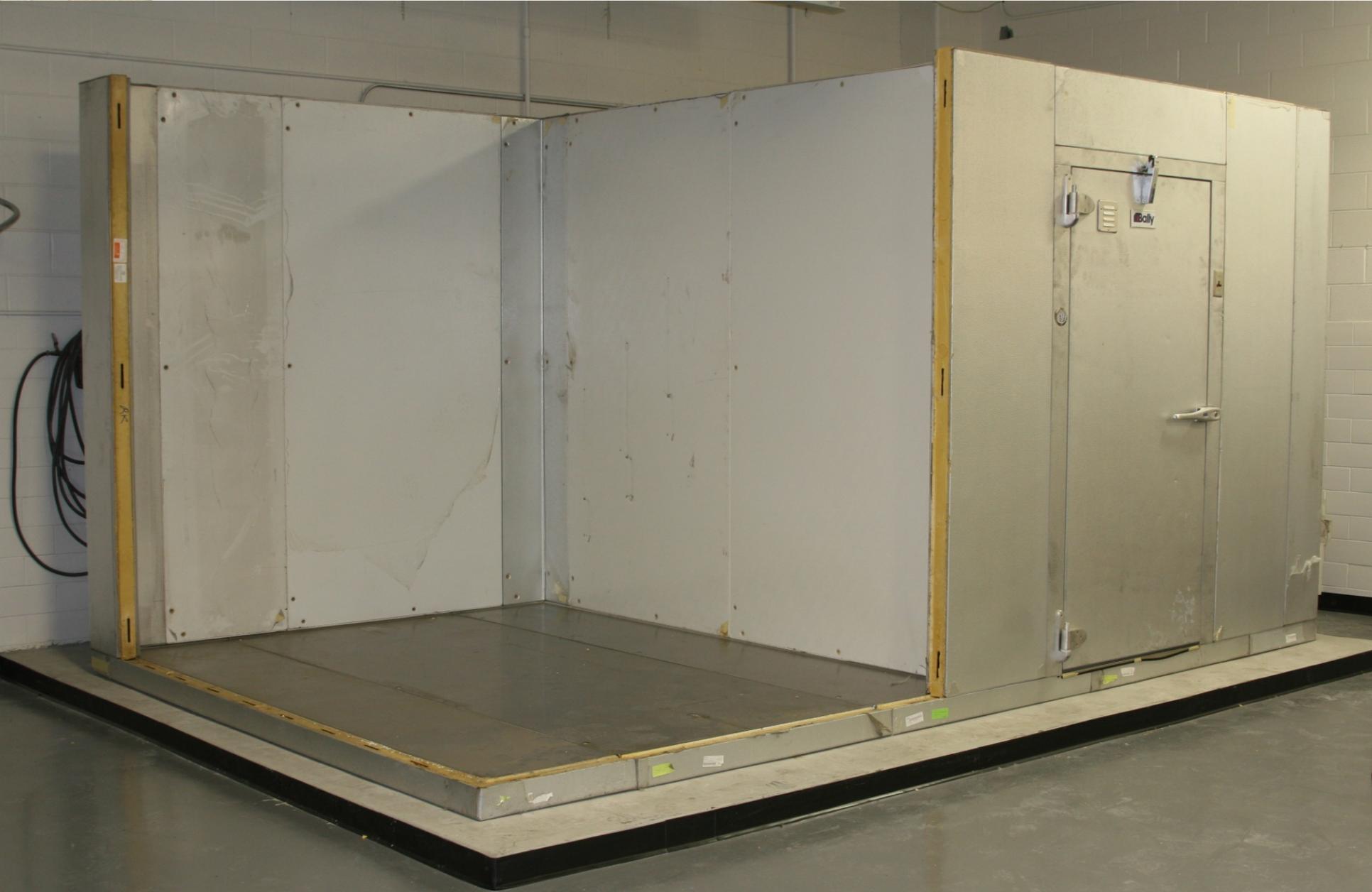
2/20/09 – Refrigeration Rack



Lab 3/9/09 – Moving cases



3/18/09 – Walk-Ins assembled



5/12/09 – Cases in place



5/19/09 – BAS Tables Arrive



5/21/09 – Table Assembly



5/21/09 – Table Assembly



5/27/09 – Tables shaping up



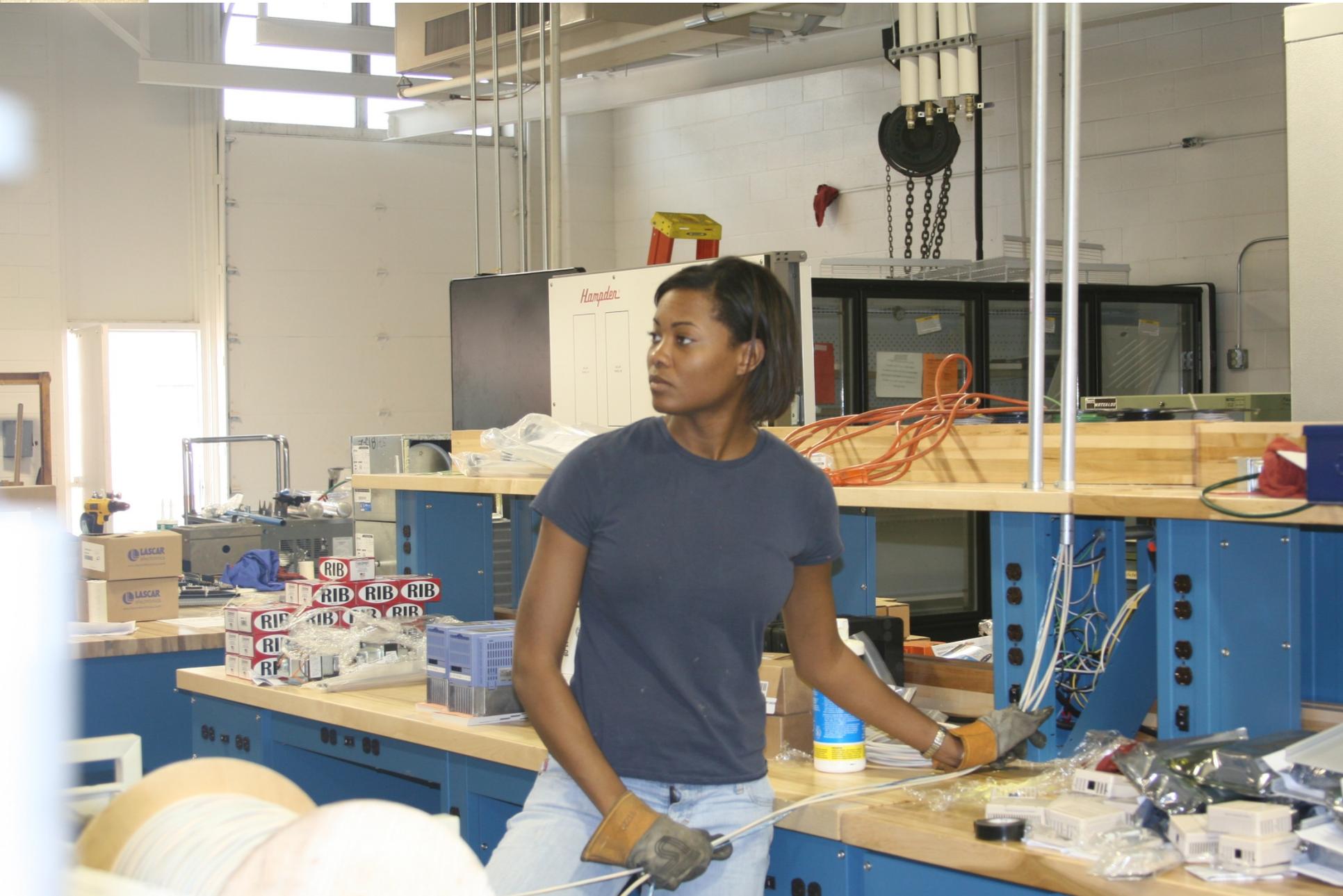
8/19/09 – BAS equipment arriving



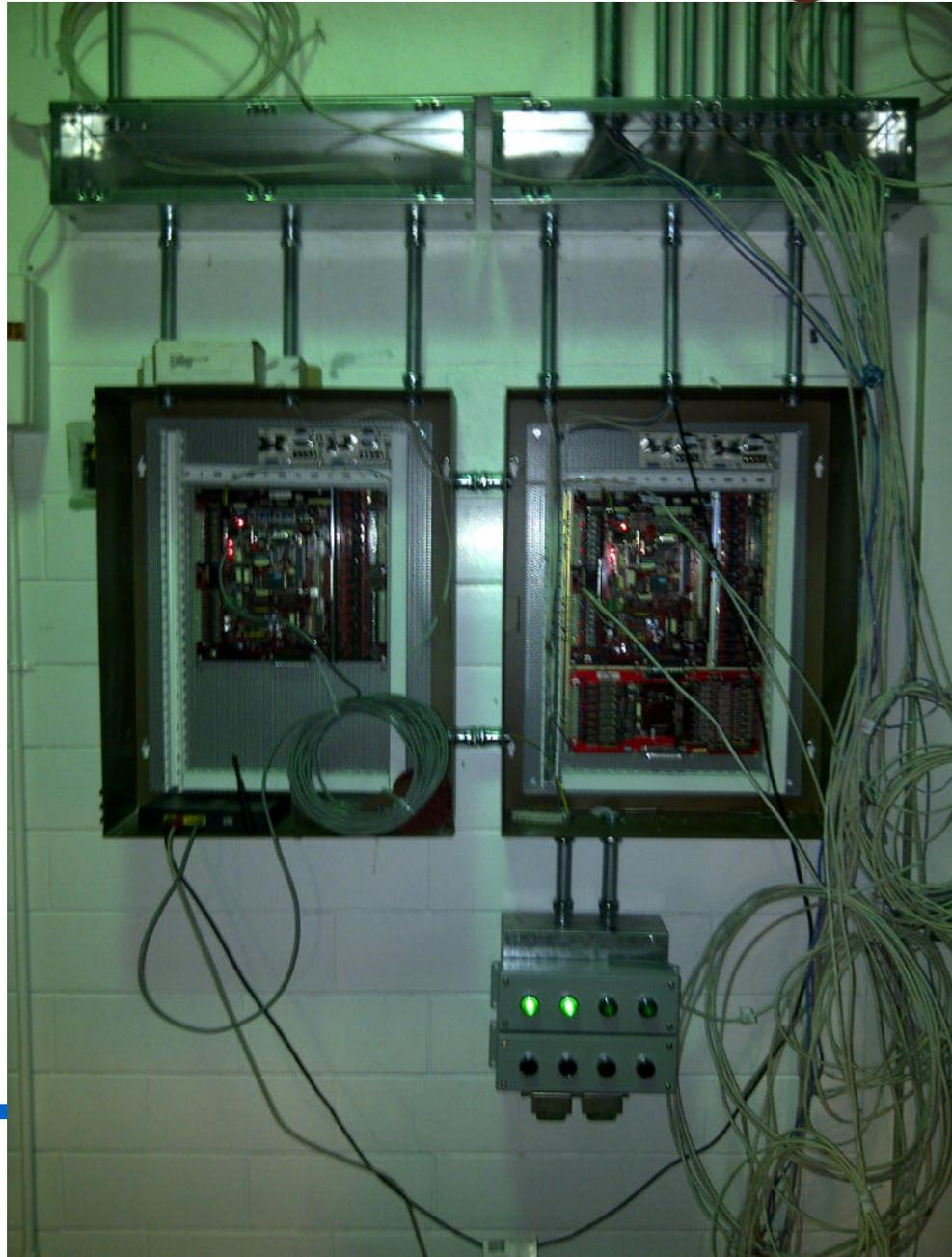
9/12/09 – Pulling control cables



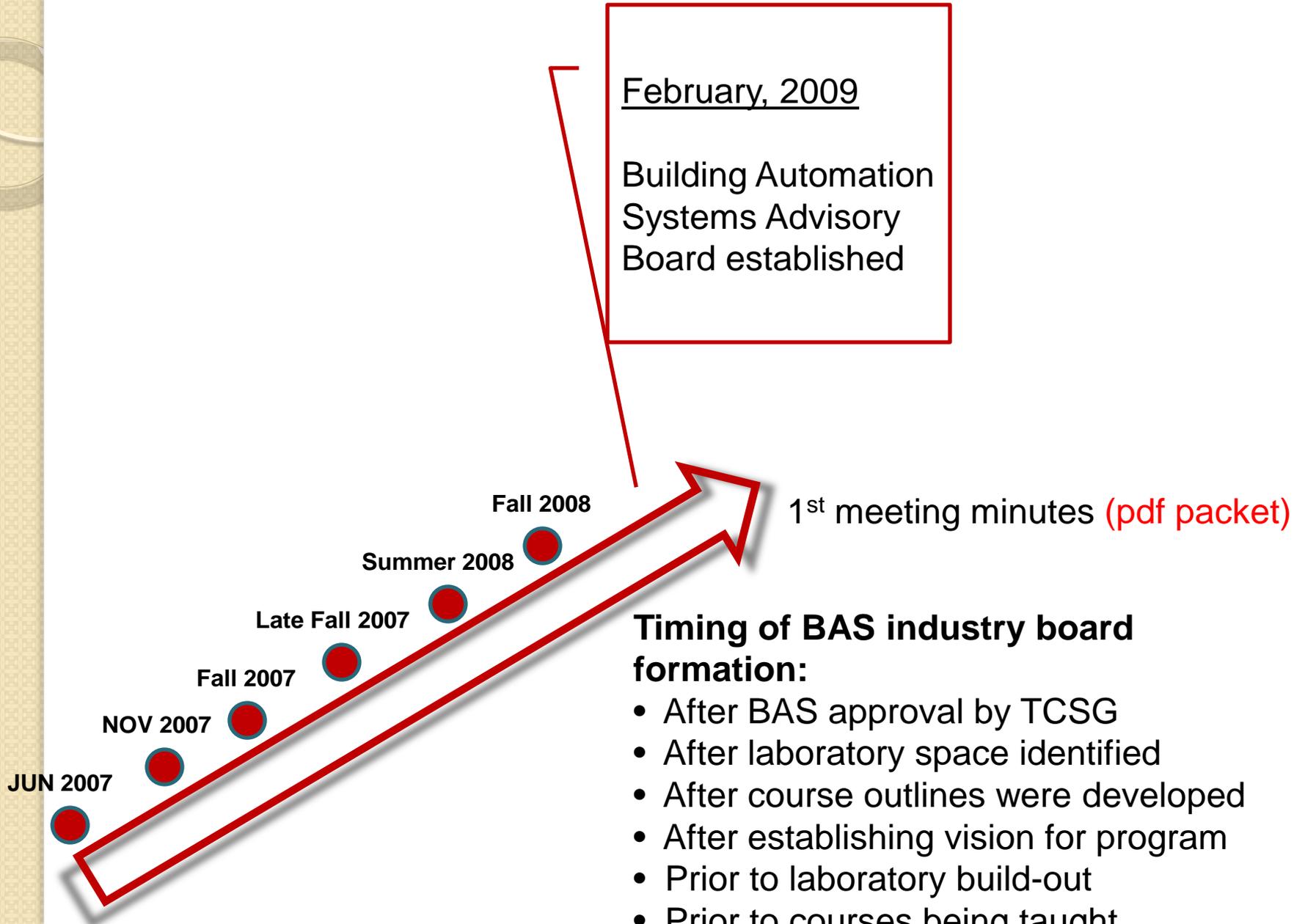
9/12/09 – Pulling control cables



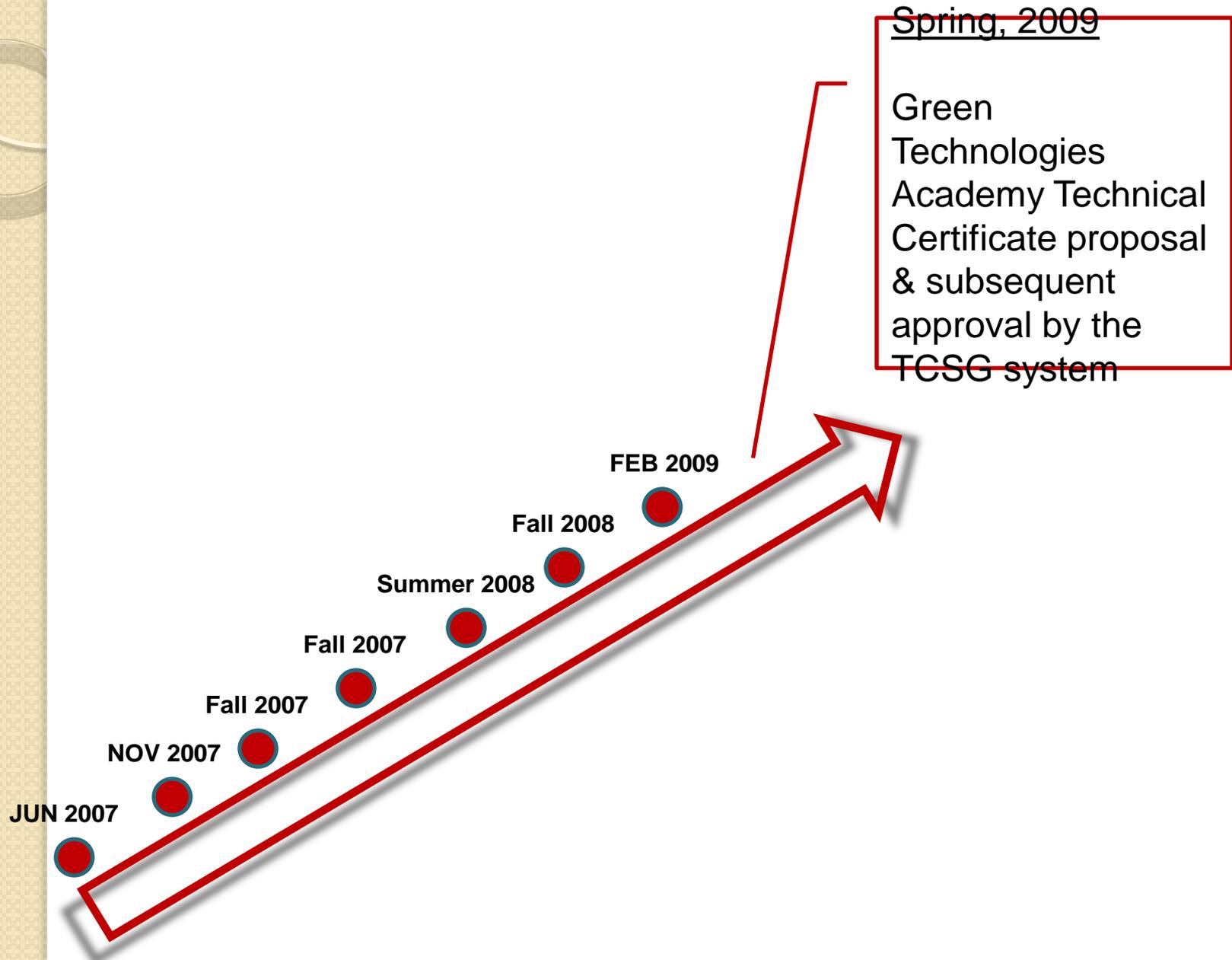
9/12/09 – Terminating controls



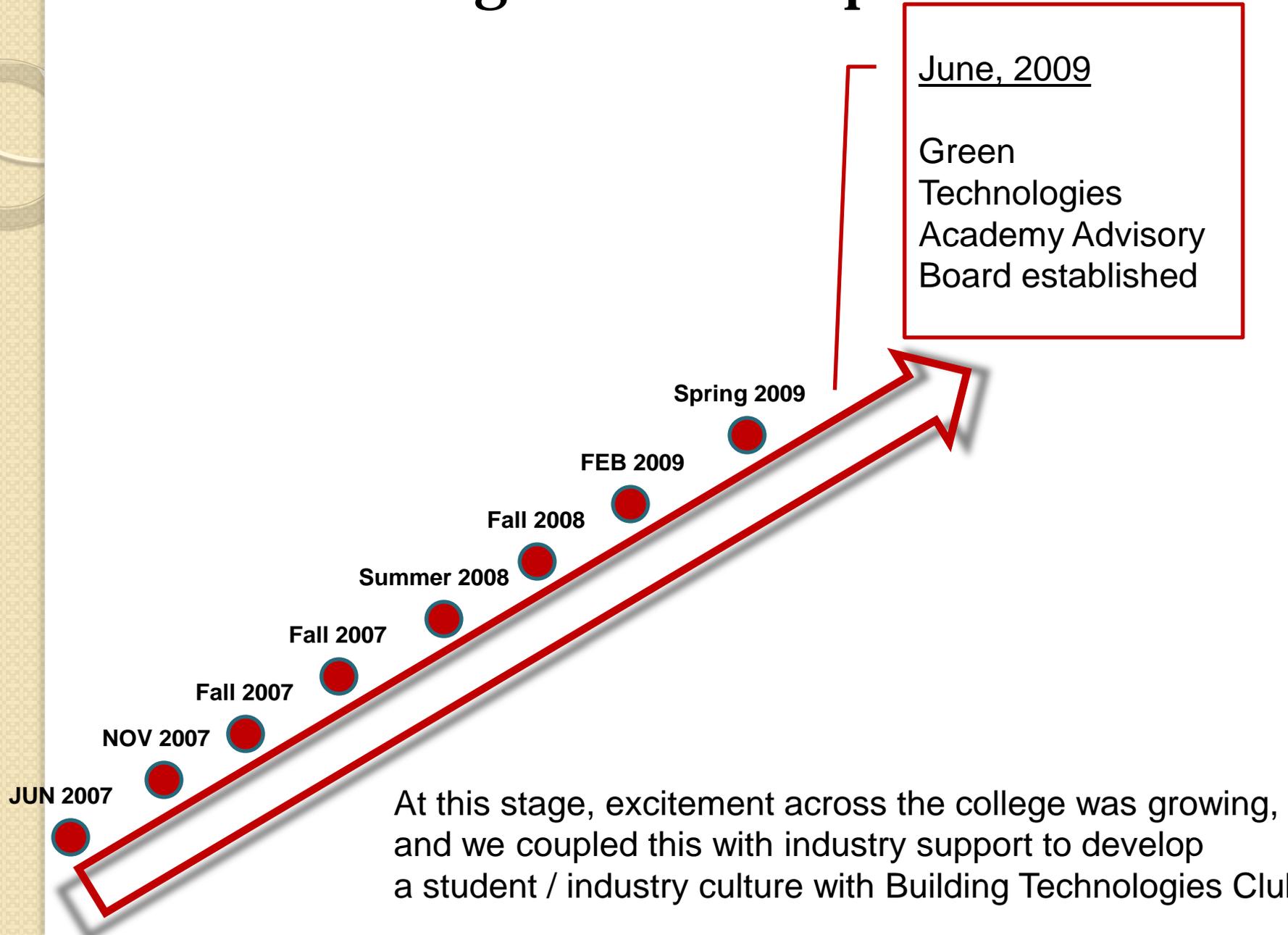
BAS Program Development



BAS Program Development



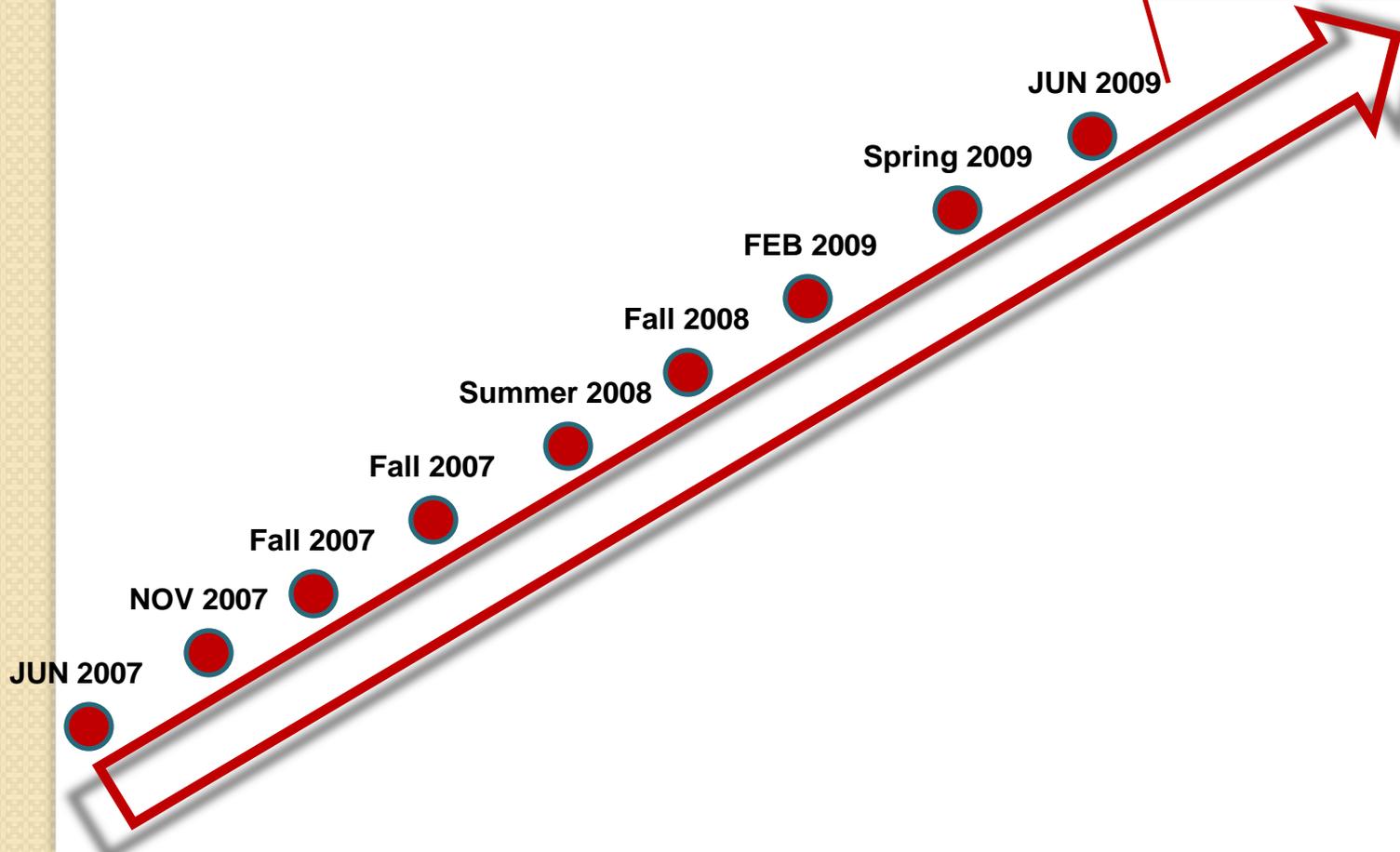
BAS Program Development



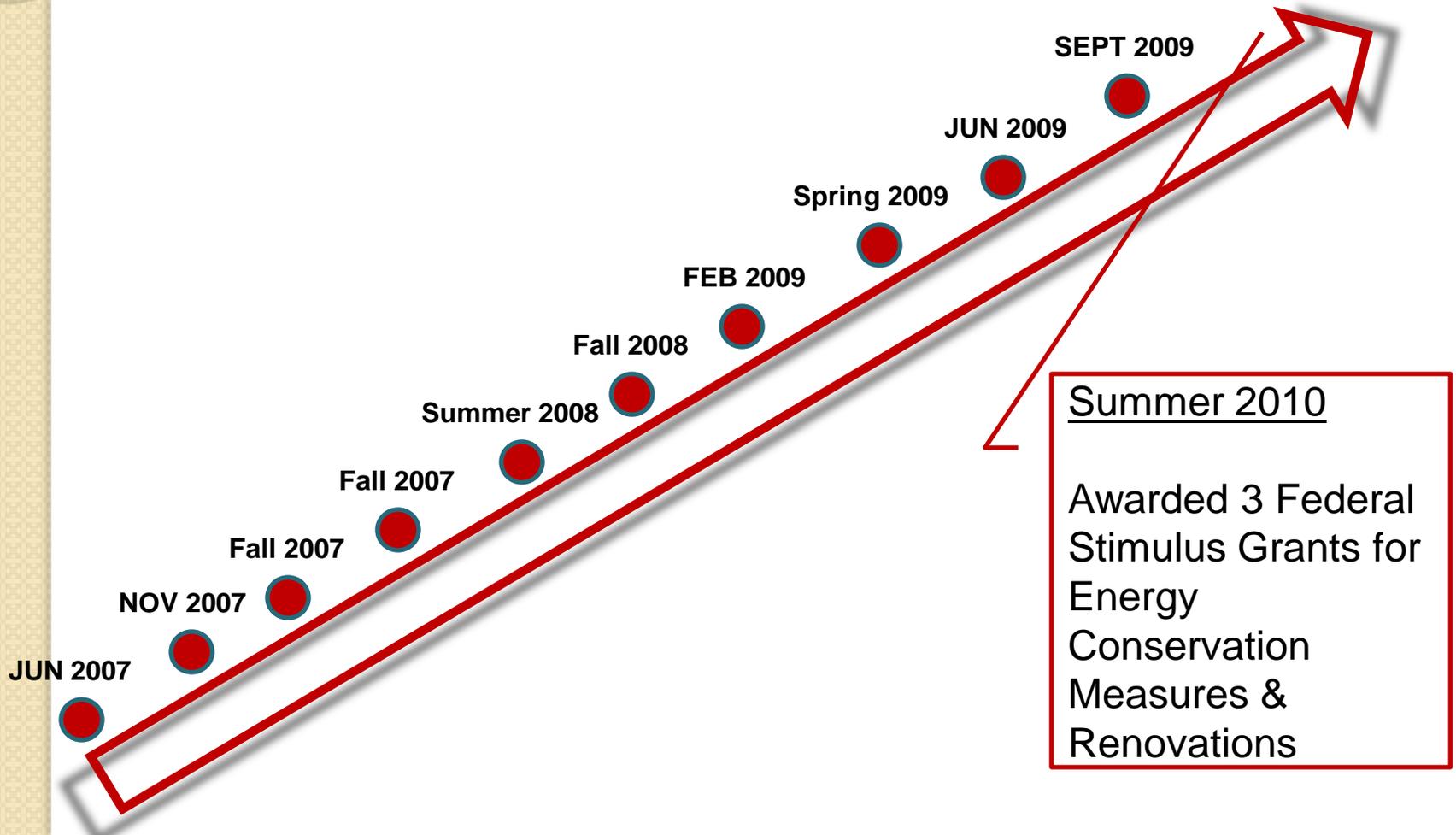
BAS Program Development

September, 2009

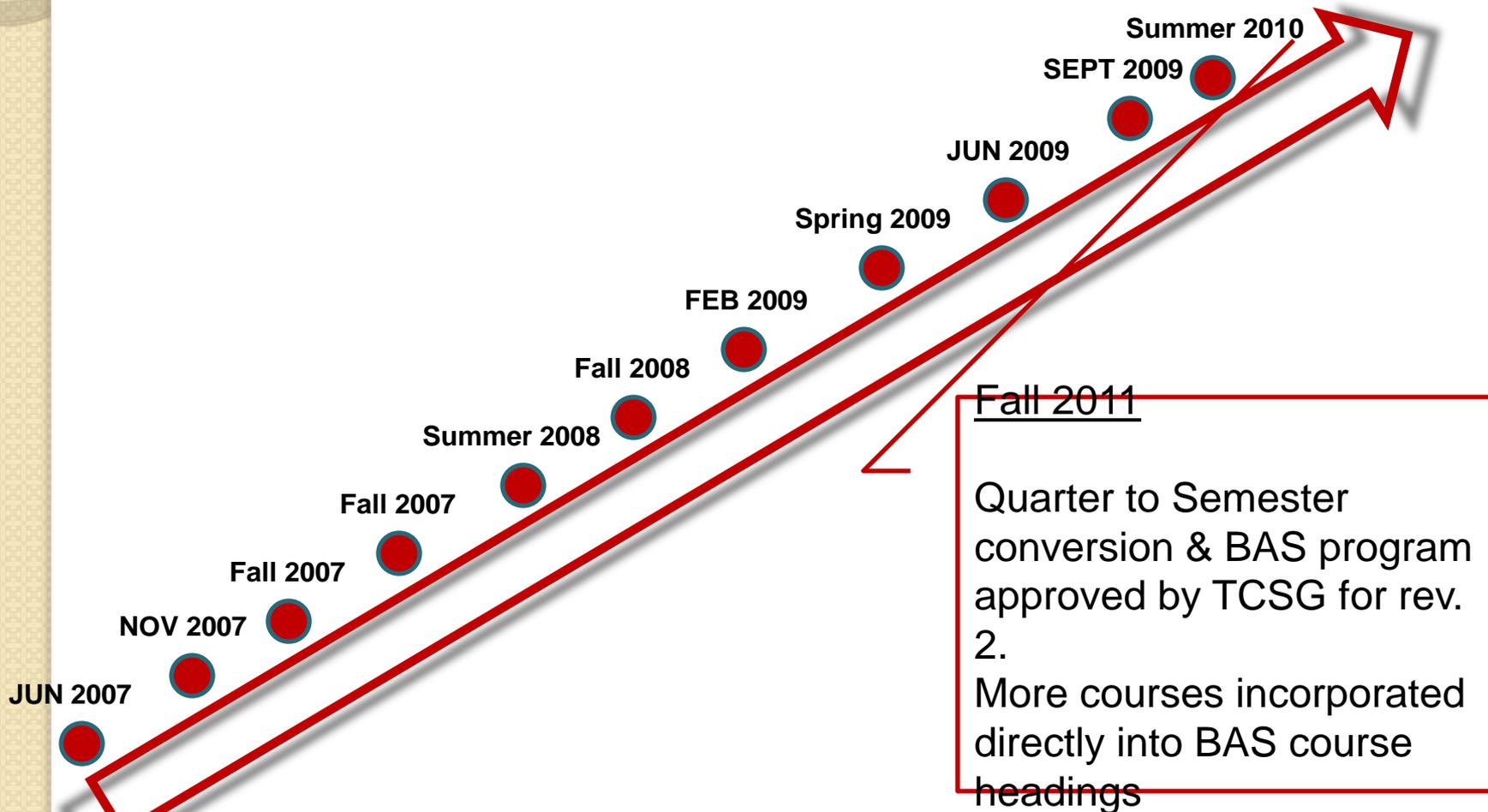
Grand Opening
Celebration with
administrators, 40 industry
partner companies



BAS Program Development



BAS Program Development



BAS Program Map from Quarter to Semester

Quarter

General

MAT 1111 (5) ____
ENG 1101 (5) ____
HUM 1101 (5) ____
MAT 1113 (5) ____
SCT 100 (3) ____
AREA III (5) ____

Core

IFC 100 (2) ____
ACT 100 (4) ____
ACT 101 (7) ____
ACT 102 (7) ____
ACT 103 (7) ____
ACT 104 (4) ____
ACT 105 (5) ____
ACT 106 (4) ____
IFC 101 (4) ____
CIS 1140 (6) ____
ELC 108 (4) ____
IFC 102 (4) ____
BAS 200 (3) ____
BAS 201 (4) ____
BAS 202 (3) ____
CIS 252 (7) ____
BAS 203 (3) ____
BAS 204 (3) ____
BAS 205 (3) ____
BAS 206 (3) ____
BAS 210 (3) ____

Semester

College Algebra (3) ____
ENG 1101 (3) ____
HUM 1101 (3) ____
MAT 1113 (3) ____
COMP 1000 (3) ____
AREA III (3) ____

AIRC 1005 (4) ____
AIRC 1010 (4) ____
~~AIRC 1020 (4) ____~~
BUAS 1010 (2) ____
BUAS 1020 (3) ____

BUAS 1030 (3) ____

BUAS 1040 (3) ____
BUAS 1050 (3) ____

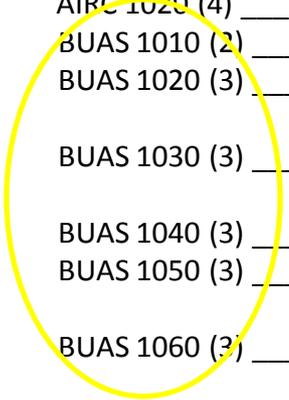
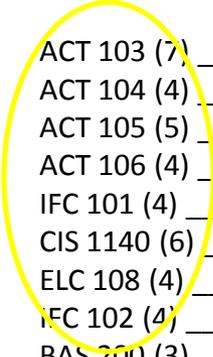
BUAS 1060 (3) ____

BUAS 2010 (3) ____

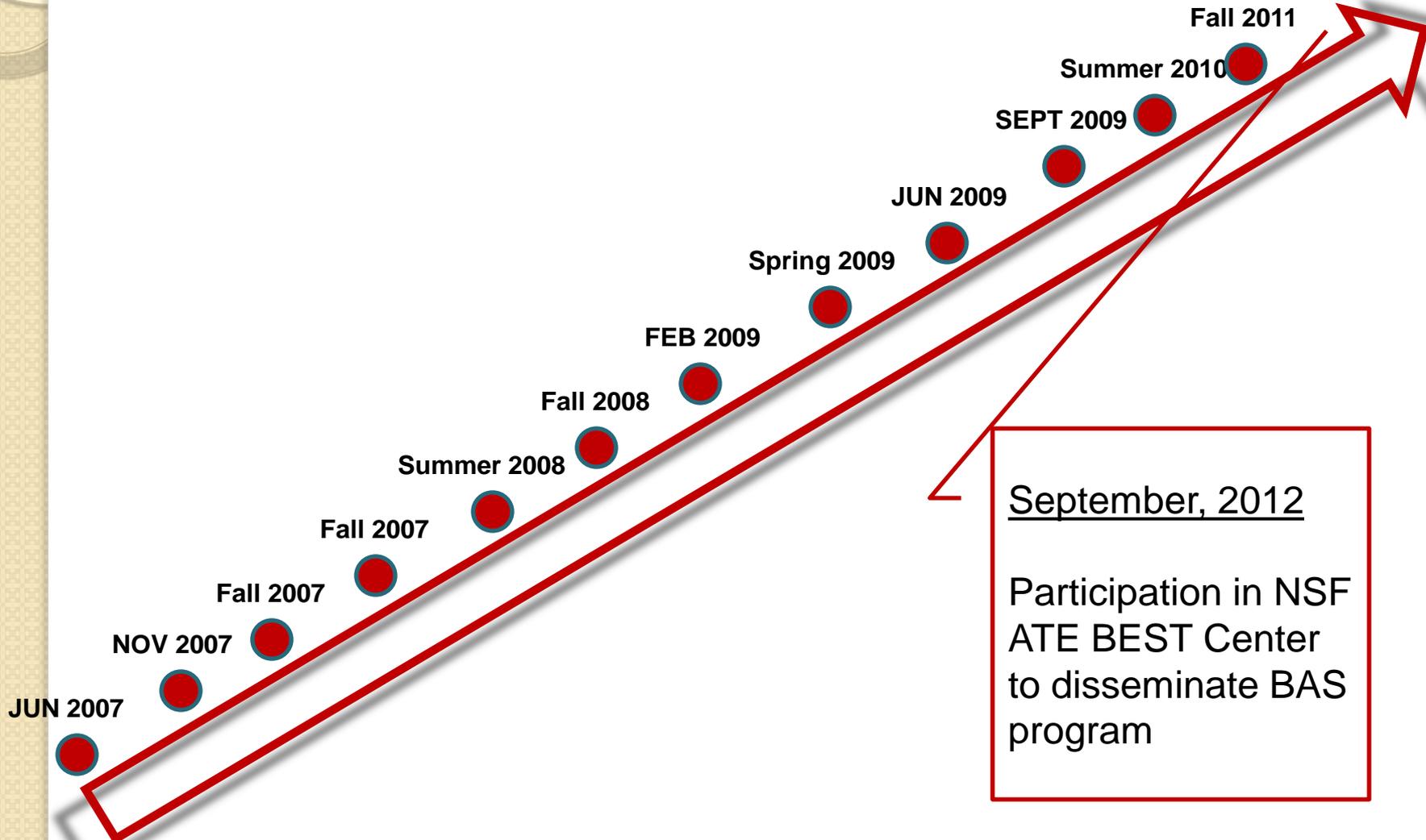
BUAS 2020 (3) ____

BUAS 2030 (3) ____

BUAS 2040 (5) ____
BUAS 2050 (3) ____



BAS Program Development



September, 2012

Participation in NSF ATE BEST Center to disseminate BAS program