College Lake County
Connect to Your Future

HOLABIRD & ROOT
CREATE PRESERVE TRANSFORM

MASTER PLAN 2020

DEPT. HEAD PROGRAM NOTES

ENGINEERING, MATHEMATICS & PHYSICAL SCIENCES

CLC User Group Program Notes Disclaimer
These notes identify CLC Master Plan programming as heard and documented by the Master Plan Programming Team at Holabird & Root LLC. They are by nature interpretive and do not represent any direct quotes or opinions by any of the interviewees or user groups.

Date of Meeting
February 11, 2020

Committee Participants
- Richard Ammon
- Laura Gabel
- Bryan Hadley
- Scott Hardy

Goals for Meeting:
- Discuss goals for program development / outreach & partnership activities / etc.
- Review workforce trends in Lake County and discuss opportunities (advanced manufacturing, incubator space).
- Discuss representation at all campus locations.

Notes from Discussion:
- Notes on current departmental breadth & role:
    - Division enrollment & faculty are made up of ½ trades, and ½ mathematics
    - 75% of EMPS students are pursuing transfer degrees (physical sciences and mathematics)
    - Vocational students are those that receive certificate as opposed to a degree
    - Trade school students are typically part-time credit load and working currently, often working in the trade already.
    - Presence by campus:
        - Grayslake: All programs
        - Lakeshore:
            - Math, physical sciences, HVAC (new within past year), automation/robotics/mechatronics (new within past year)
            - Presence is for students living there; specifically, there is a demand for HVAC
        - Southlake: math, physical sciences
    - Dean Ammon has a technical college background

- Evaluation of current spaces:
    - Spaces are undersized, especially during daytime hours.
        - Automotive is designed for 100 with current enrollment of 300
        - Welding & Machining experience similar limitations

- Current space needs:
    - Advanced Technology Center
        - “Industry 4.0” < There are 4 levels of Industrial Revolution and Advanced Technology Center would focus on the 4th.
        - Estimated $40 million construction; pursuing partnership with private sector

        - Examples of this facility type include Gateway Technical College and Rockford

- Notes regarding the future of department:
    - General growth
        - CLC is at about 75% of where they need to be to service the community
        - EMPS experienced 6% growth in trades this semester relative to previous year
        - 25% EMPS enrollment growth in trades is anticipated over the next 10 years
    - Growing programs
        - Advanced Manufacturing
            - Consulting group (National Coalition of Advanced Technology Centers) is coming to CLC on March 11-13th to survey >100 companies and advise college on facilities and program expansions. Preview report will be given on last day, but detailed final report will follow in a couple months.
            - Lake County is second largest manufacturing county in IL, a $30 billion industry
            - Lake County is home to 700 manufacturing companies
            - Advanced Technology Center would directly support this program
        - Mechatronics could be expanded to Southlake
        - Welding, mini trades, industrial maintenance could be brought to Lakeshore
    - Day program wants to grow
    - At Lakeshore it is desired to build out programs to be able to complete full associate degree program.

- Evaluation of potential future spaces:
    - Talks of relocating automotive technology and collision repair to off site in a facility built out for this already (ex: a car dealership)

- Opportunities to support collaboration + integration:
    - Small Business Incubator = possible mission creep. First priority should be what the college does well, which is train students. Private industries may be able to accomplish incubator concept better.

- Documents shared by department:
    - National Coalition of Advanced Technology Centers Study Scope
    - FY 2020 Proposed Budget Needs EMPS Division, Presentation to CLC Foundation 11/6/2019, Presented by the Engineering, Mathematics and Physical Sciences

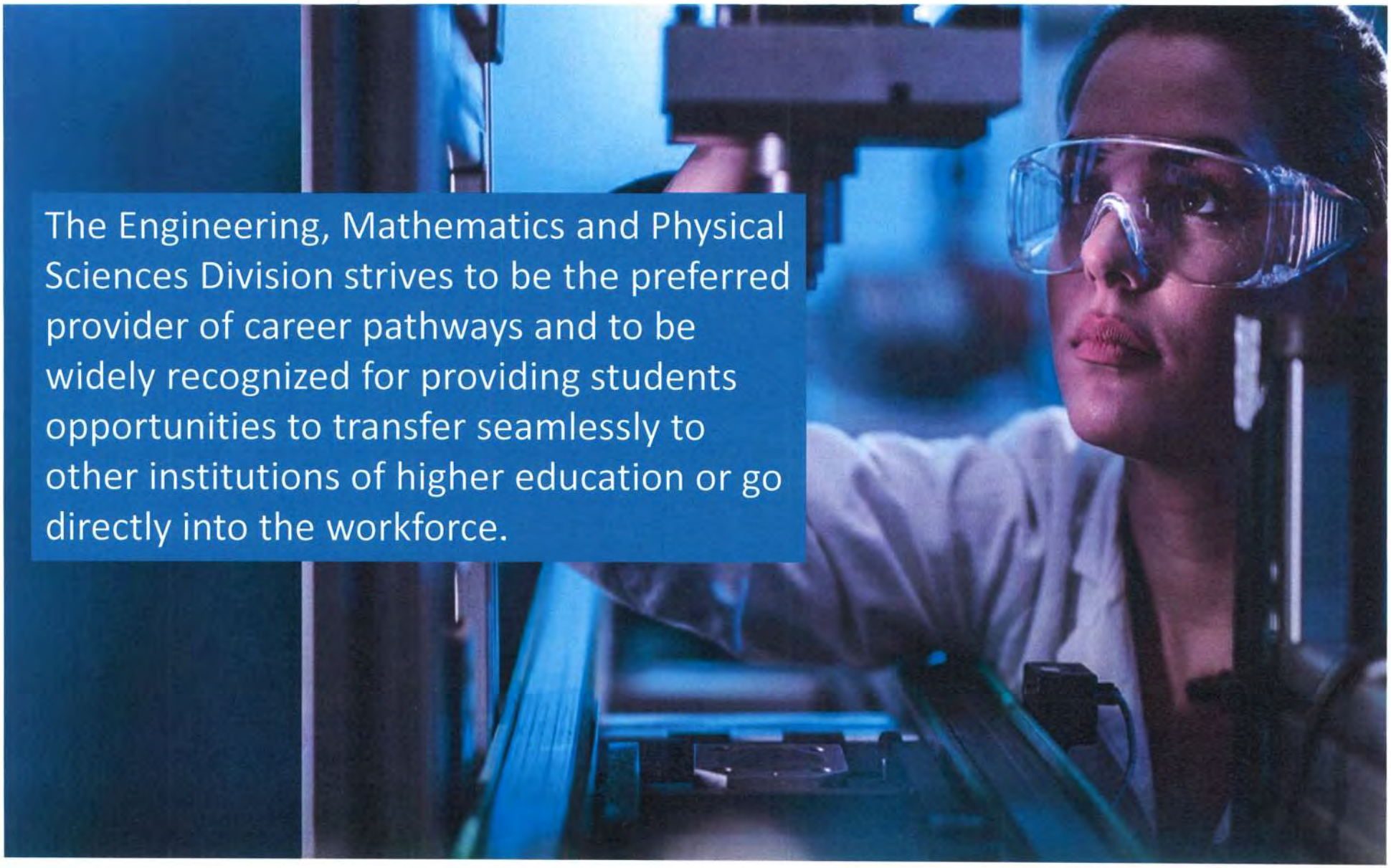
- End of Section -

FY2020 Proposed Budget Needs EMPS Division

Presentation to CLC Foundation
November 6th, 2019

Presented by the Engineering, Mathematics and Physical Sciences

Division Strategic Vision



This is EMP

19 Departments: 13 Career and Technical Education (CTE) and 6 Career/Transfer	
Automation, Robotics and Mechatronics (ARM)	Geography (GEG)
Automotive Collision Repair (ACR)	HVAC Engineering Technology (HET)
Automotive Technology (AUT)	Laser/Photonics/Optics (LPO)
Computer Aided Design (CAD)	Machine Tool Trades (MTT)
Computerized Numerical Control (CNC)	Mathematics (MTH)
Earth Science (ESC)	Math Computer Science (MCS)
Electrical Engineering Technology (EET)	Mechanical Engineering Technology (MET)
Electrical Technology (ELC)	Physics (PHY)
Electronics Engineering Technology (ELT)	Welding (WLD)
Engineering (EGR)	

This is EMPS

- 45 Full-time Faculty
- 174 Part-time Faculty
- Support Office Staff: 5 shared positions
- 4 full-time specialists
- 2 administrators
- 1 AOM

EMPS Strategic Vision and Goals

- To improve student success and completion
- To close the skills gap and increase the supply of skilled labor
- Increase internal capacity to provide comprehensive services offered to our students and other stakeholders
- Serve underserved students

The Why

*CLC learned that of 157 manufacturing companies that Lake County Partners (LCP) has consulted with, about one- third of them demonstrated a demand for CNC machinists, welders or maintenance technicians. LCP found that many of its business clients require postsecondary credentials for these jobs.

Welder
Employment Stats in Lake County

1,049
NEW JOB OPENINGS OVER NEXT 10 YEARS

6%
JOB GROWTH OVER NEXT 10 YEARS

Hourly Earnings
Entry Level – $12.09
Average – $18.49
Experienced – $26.85

Source – Emsi, 2018

Industrial Machinery Mechanic
Employment Stats in Lake County

693
NEW JOB OPENINGS OVER NEXT 10 YEARS

13%
JOB GROWTH OVER NEXT 10 YEARS

Hourly Earnings
Entry Level – $15.75
Average – $25.72
Experienced – $36.55

Source – Emsi, 2018

Mechanical Engineer
Employment Stats in Lake County

458
NEW JOB OPENINGS OVER NEXT 10 YEARS

1%
JOB GROWTH OVER NEXT 10 YEARS

Hourly Earnings
Entry Level – $22.88
Average – $39.17
Experienced – $57.42

Source – Emsi, 2018

- Many companies report that they cannot expand due to the lack of skilled labor
- Amplified by retirements

<u>CLC Educational Pathways</u>

1. Computerized Numerical Control/Machine Tool Trades
2. Electrical Engineering Technology
3. Laser Photonics Optics
4. Mechatronics
5. Mechanical Engineering Technology
6. Welding

*CLC Environmental Scan

The Why

*The need for skilled labor is increasing, the labor pool is shrinking

Automotive Service Technician
Employment Stats in Lake County

1,931
NEW JOB OPENINGS
OVER NEXT 10 YEARS

4%
JOB GROWTH
OVER NEXT 10 YEARS

Source – Emsi, 2018

Auto Body Techs and Custom Detailer
Employment Stats in Lake County

439
NEW JOB OPENINGS
OVER NEXT 10 YEARS

3%
JOB GROWTH
OVER NEXT 10 YEARS

Source – Emsi, 2018

- There is a general lack of knowledge of the careers available in the skilled trades at the high school and general community level

<u>CLC Education Pathway</u>

1. Automotive Technology
2. Automotive Collision Repair

**CLC Environmental Scan*

Why the Focus on Manufacturing?

- One in four Illinois workers are in manufacturing directly or in jobs the industry helps support
- Locally, manufacturing employs over 50,700 people in Lake County
- At an average salary of $146,877
- The manufacturing industry generates $35.7 billion in economic output per year in Lake County
- Manufacturing contributes more than 27 percent of Lake County's Gross Domestic Product

Funding Priorities

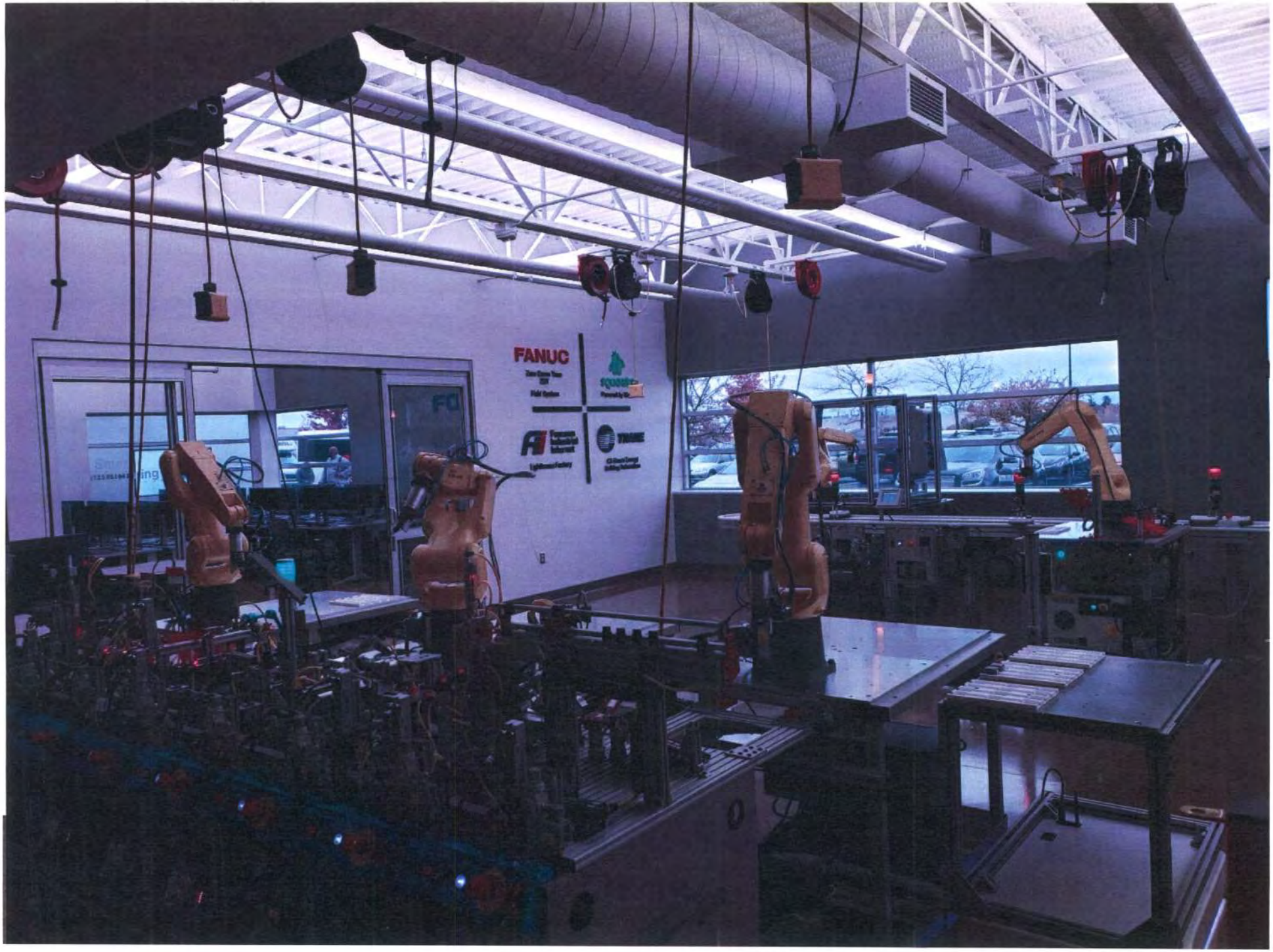
- Student support and services
- Critical equipment
- Keep current with industry needs and standards
- Program expansion
- Program promotion

EMPS Funding Priorities

- Adult Promise for CTE (Equity and underserved population support)(personnel/faculty, tuition, books, tools, certification exam support)
- Equipment for replacement and expansion
- Advanced Technology Center Facility
- Apprenticeship program support (personnel/faculty, tuition, books, tools, certification exam support)
- Auto facility update/remodel
- Industry Trades Specific Marketing funds
- Training beyond PLARP for Faculty – Keeping faculty current in their field
- Personnel

	Personnel	Facility Space	Equipment		
ACR	X	X	X	Increase size of BLG 12 w/equipment	Need for early model vehicles (less than 5 years old)
ARM/MET*	X	X	X	Expand to 2 year degree at LSC	
AUT	X	X	X	Potential offsite location	Need for early model vehicles (less than 5 years old). Need to modernize and replace aging equipment and facility. Floor needs to be replaced in auto lab ($100,000). Equipment is aging and needs to be replaced. Need updated equipment to teach new skills.
CAD*	X				
CNC/MTT*	X	X	X	Need daytime facilities Promotion of Trades as career option	Need modern training facility to in include enough equipment to adequately teach students.
EET/ELT*	X	X	X		Equipment needs to keep program up-to date
ENGR*		X		Larger Maker Space	Continue Baxter funding for engineering career promotion. Equipment upgrades/replacements are needed
HET/HVAC*	X	X	X	Expand at LSC	Equipment needs to keep program up-to date. Need equipment and remodel to expand to LSC and provide full one year program.
Welding*	X	X	X	Need daytime facilities	Need modern training facility (non-Tech campus)

Rockwell Automation
BIG FUTURES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