NICERC™

AN ACADEMIC DIVISION OF THE
CYBER INNOVATION CENTER

MCEC: Building Strong Roots and a Sustainable Future through AP Computer Science Principles

National Integrated Cyber Education Research Center

Professional Development
Curriculum Design
Collaboration in K-12 Education

Transforming Education
Empowering Educators
Preparing a Cyber-Ready Workforce

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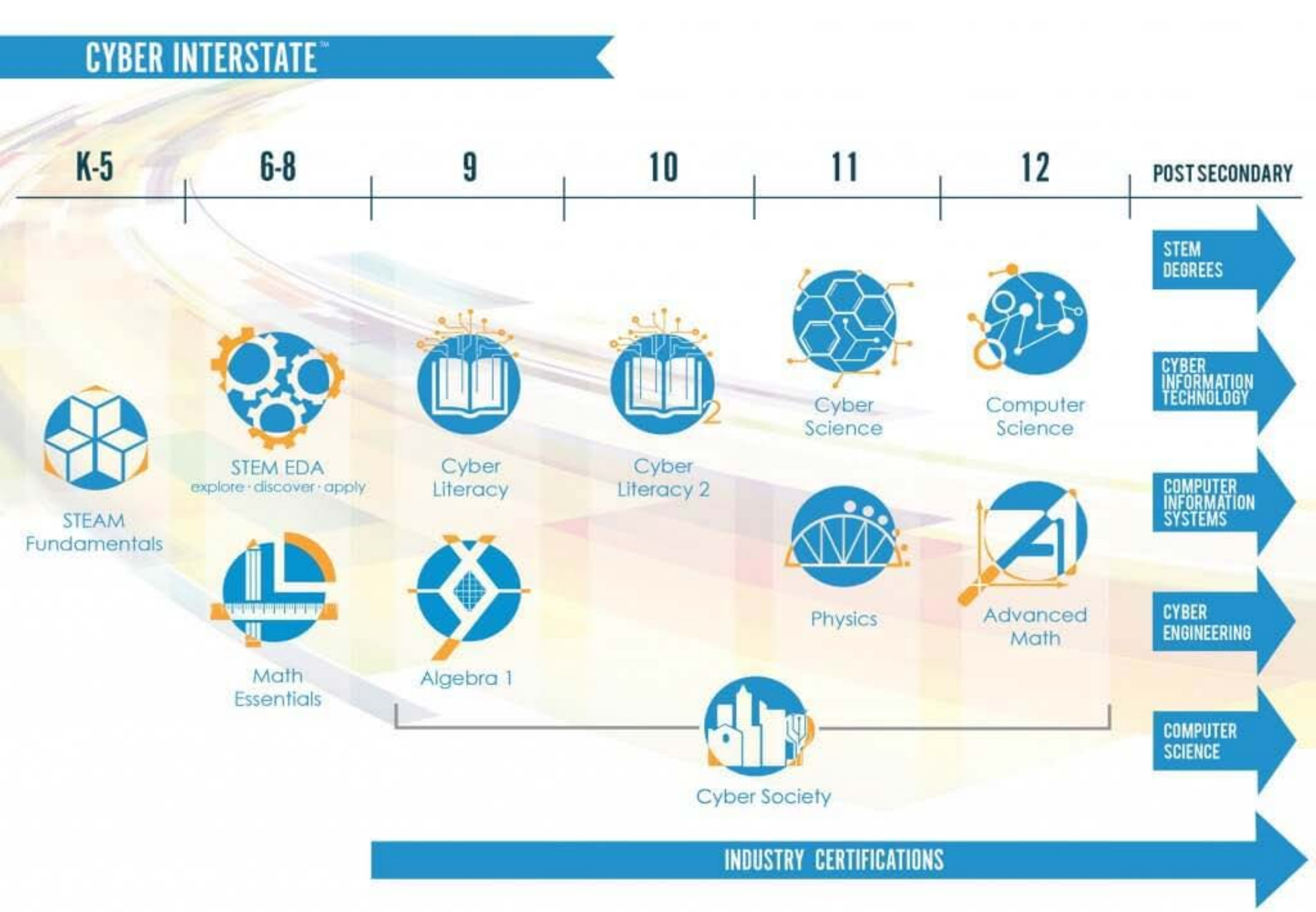
CYBER INTERSTATE™



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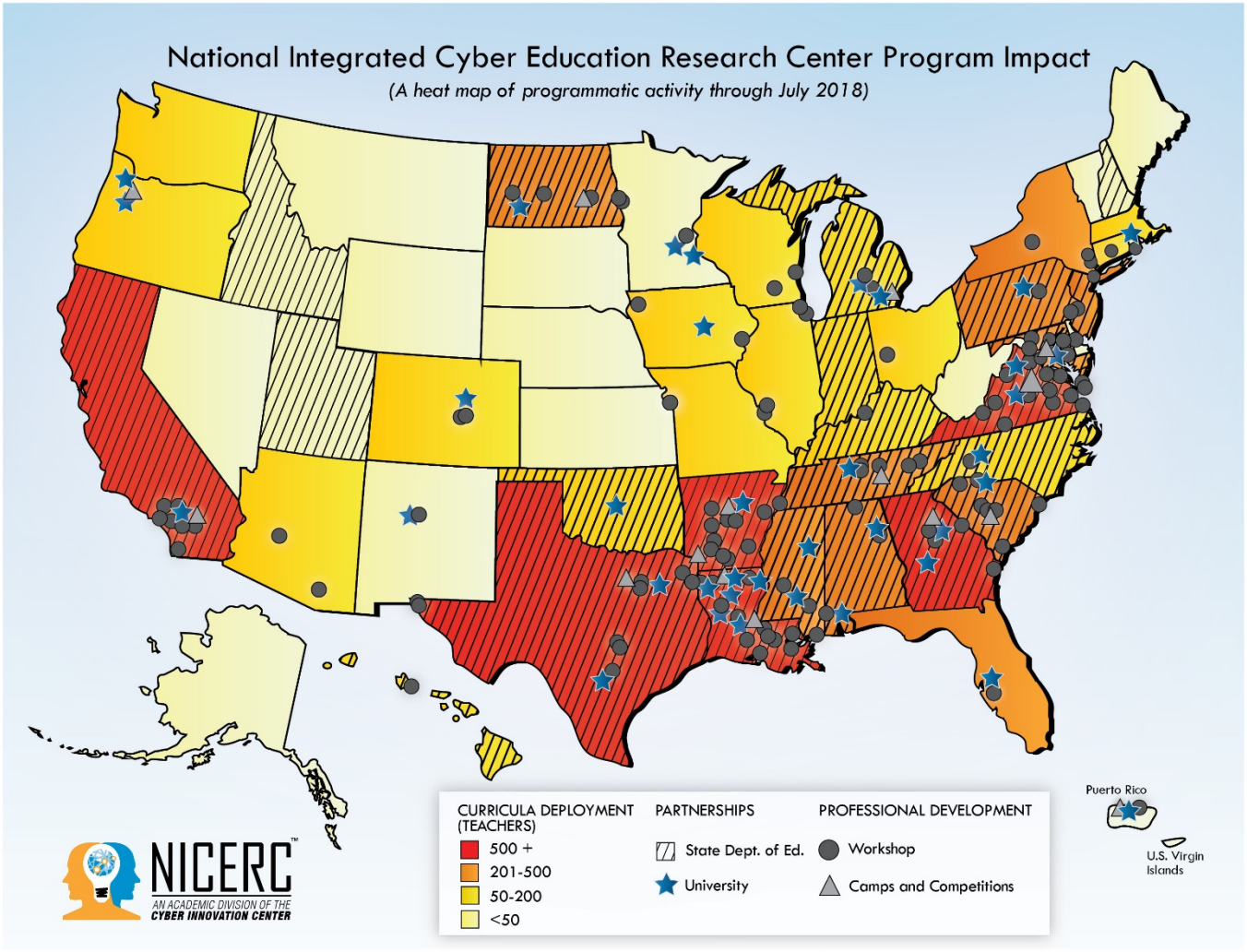
Educating the Military Child

- Partnership with Bossier Parish School (Barksdale Air Force Base) – Cyber Pathways, DoDEA Curricula Development
- Replicable model for developing academic and programmatic consistency among school districts who support the military child.
- Cyber and Technology based pathway that culminates with AP Computer Science Principles

Cyber Literacy Cyber Literacy 2 Cyber Science Computer Science

NICERC Heat Map



Specificity

Person A: Programmer: Describes how to draw the picture.

Person B: Computer: Draws *exactly* as the Programmer commands.

Computer can only say:

"**Repeat the last instruction**"

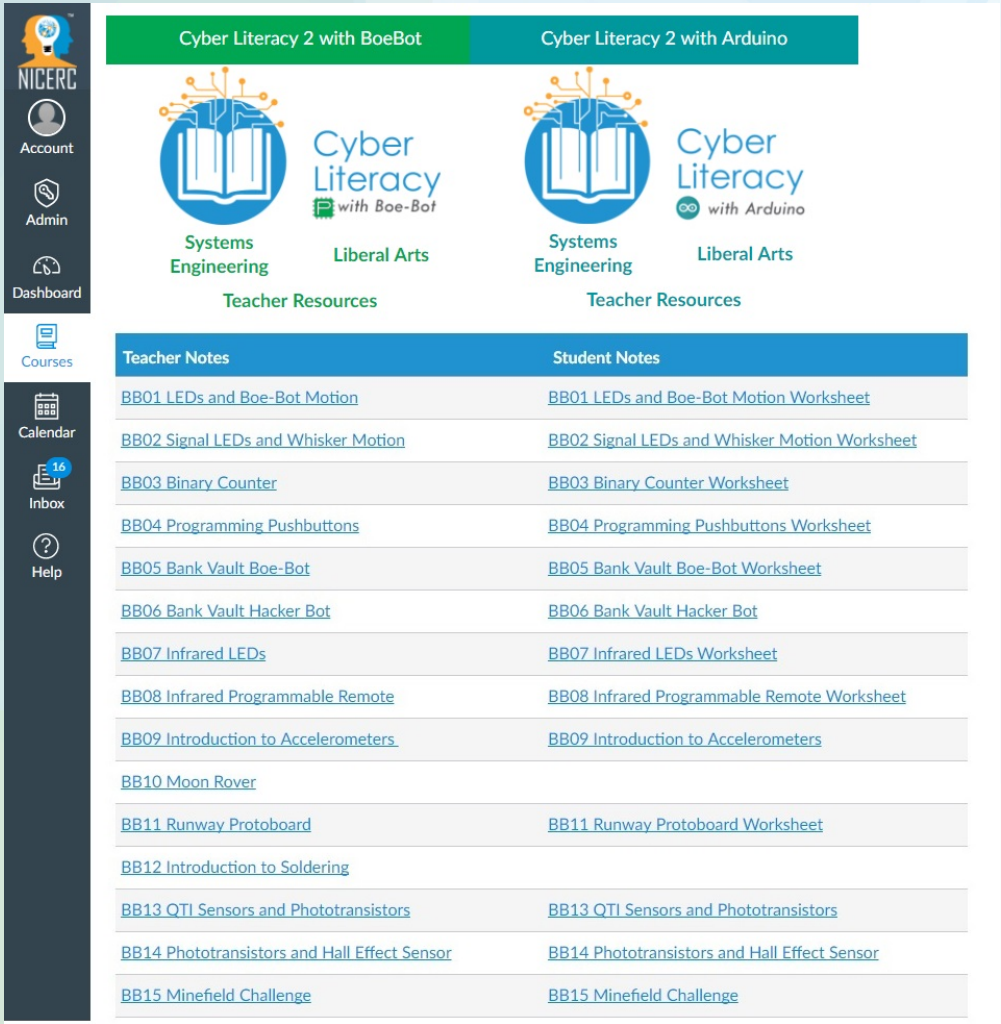
"**Wait**"

"**Ready for next instruction**"

Programmer describes to the computer how to recreate the image.

Sit back to back. **Do not** let your partner see your paper until I say turn around.

Learning Management System



Teacher Notes	Student Notes
BB01 LEDs and Boe-Bot Motion	BB01 LEDs and Boe-Bot Motion Worksheet
BB02 Signal LEDs and Whisker Motion	BB02 Signal LEDs and Whisker Motion Worksheet
BB03 Binary Counter	BB03 Binary Counter Worksheet
BB04 Programming Pushbuttons	BB04 Programming Pushbuttons Worksheet
BB05 Bank Vault Boe-Bot	BB05 Bank Vault Boe-Bot Worksheet
BB06 Bank Vault Hacker Bot	BB06 Bank Vault Hacker Bot
BB07 Infrared LEDs	BB07 Infrared LEDs Worksheet
BB08 Infrared Programmable Remote	BB08 Infrared Programmable Remote Worksheet
BB09 Introduction to Accelerometers	BB09 Introduction to Accelerometers
BB10 Moon Rover	
BB11 Runway Protoboard	BB11 Runway Protoboard Worksheet
BB12 Introduction to Soldering	
BB13 QTI Sensors and Phototransistors	BB13 QTI Sensors and Phototransistors
BB14 Phototransistors and Hall Effect Sensor	BB14 Phototransistors and Hall Effect Sensor
BB15 Minefield Challenge	BB15 Minefield Challenge

Over 250 files per course that includes:

- Student Workbooks
- Master Notes
- Lesson Plans
- PowerPoints
- Standards Mapping
- And other Supplemental Resources

NICERC team members serve as the ‘teacher’ and teachers across America are the ‘students’.

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