What are the key critical pieces that I think my students should have as a result of the **process** they've been engaged in? → these are the things that become badges

Summer 1
- Develop and demonstrate growth mindset during innovation hub activities
- Create prototypes in iterative processes
- Basic understanding of computing systems
- Basic capacity to program microcontrollers to interact with the physical world
- Ability to engage in algorithmic thinking
  - In relation to executive function as well
- Develop an awareness of your thoughts, behavior, emotions, and/or energy to reflect on your learning and experiences (wording)
- Productive collaborations with others
- Engage in the feedback loop
  - Recognize own mistakes
  - Receive feedback from others
  - Incorporate feedback in your work
  - Provide feedback for others
- Develop a self-care plan
- Basic understanding of physical tools
- Basic understanding of manufacturing processes
- Basic understanding of materials and their uses
- Basic understanding of digital fabrication tools and processes
-

Semester 1
- Work on Solidworks certification
- Demonstrate Design Process in place / creativity / innovation
- Workforce readiness
  - Communication skills (listening, speaking, email/Slack)
  - Collaboration with others
  - Time management
  - Project management
  - Take initiative
  - Conflict resolution
  - Organizational skills
  - Adaptability/Flexibility
  - Problem solving
  - Demonstrate work ethic

Semester 2
- Complete SolidWorks certification
- Job search
- School applications
- Prep for residency → daily living skills system developed
- Complete all competencies for Vaughn courses

- Demonstrate workforce readiness
- Personal development plan (self-regulation, executive functioning, relationships)

Summer 2
- Demonstrate maker and computer science skills in a novel passion project
  - Build, design and test (Robot, Plane, Drone, Manufacturing)
  - Document the process
  - Present the project to the group
- Demonstrate Design Process in place / creativity / innovation
- Workforce readiness
- Develop the Professional Communication Skills through a project
- Demonstrate daily living skills in residency

Competency-Based Assessment Tool Draft 1

Feedback	Competency	Evidence	Demonstration/Portfolio/Project
Formative/In-Class	Fluency with sketch tools in Solidworks	A working sketch with multiple tools developed independently	Completed in project 1
Summative/Rubric	Fluency in design and manufacture of 3D models	A successful printed airplane model	Completed in Project 1

Competency -C++ Programming Draft 1

Feedback	Competency	Evidence	Demonstration/Portfolio/Project
	Understand syntax of	Debug C++ program	

	C++ and types of logic errors		
	Create algorithms to solve a problem	Complete assigned programs	
	Knowledge of fundamental concepts: compilation and the compiler, IDE, language elements, syntax and semantics, C keywords,		
	Data Types, Evaluations and Basic Input /Output Operations		
	Flow Control: Decision Making statements and Loops		

Competency Tool - SEL Draft 1

Feedback	Competency	Evidence	Demonstration/Portfolio/Project
Formative/in-class + summative rubric	Tracks progress of own learning	Reflections, self-identifies learning gains and gaps	Completed during and at the end of the Computer Programming module,

			SolidWorks module, etc.
Formative/in-class feedback loop	Uses organizational system for planning and executing survey course material	Explicit organizational plan to write a basic C++ program	Completed in introduction to computers

https://www.youtube.com/watch?v=VnXdj0yqpzI

Competency-based tools to use for assessment & feedback loop:

1. Proficiency scale - https://graniteschools.instructure.com/courses/1135464/pages/understanding-the-standards-slash-create-proficiency-scale

   https://graniteschools.instructure.com/courses/1135464/pages/proficiency-scales

Scales

When learner goals have been articulated in scale format, the teacher and students have clear direction about instructional targets as well as <u>descriptions of levels of understanding and performance</u> for those targets.

The Art and Science of Teaching, Marzano (2007). p. 23.

The Making of a Scale

Score 4.0:	In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.
Score 3.0:	No major errors or omissions regarding any of the information and/or processes (simple or complex) that were explicitly taught.
Score 2.0:	No major errors or omissions regarding the simpler details and processes but major errors or omissions regarding the more complex ideas and processes.
Score 1.0:	With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.
Score 0.0:	Even with help, no understanding or skill demonstrated.

Proficiency Scale Example
Content Area:
Learning goal/Competency:

4.0	Students will _____
3.0	Students will _____
2.0	Students will _____
1.0	With help, partial success at score 2.0 content and score 3.0 content
0.0	Even with help, no success

Question to consider:
- Badge is achieved when you reach a score of 3 or 4?
- Feedback loop using the proficiency scale?

2. Rating scale
   https://www.cognology.com.au/learning_center/competency-assessment-template-form/

Demonstrations of Learning
https://www.edutopia.org/video/demonstrations-learning

Mastery-Based Assessment Builds Accountability
https://www.edutopia.org/stw-college-career-stem-assessment

Skills/Competencies for Innovation Hub

Demonstrating Personal Qualities and Abilities
    1 Demonstrate creativity and innovation.
    2 Demonstrate critical thinking and problem solving.
    3 Demonstrate initiative and self-direction.
    4 Demonstrate integrity.
    5 Demonstrate work ethic.
Demonstrating Interpersonal Skills
    6 Demonstrate conflict-resolution skills.
    7 Demonstrate listening and speaking skills.
    8 Demonstrate respect for diversity.
    9 Demonstrate customer service skills.
    10 Collaborate with team members.

Demonstrating Professional Competencies
    11 Demonstrate big-picture thinking.
    12 Demonstrate career- and life-management skills.
    13 Demonstrate continuous learning and adaptability.
    14 Manage time and resources.
    15 Demonstrate information-literacy skills.
    16 Demonstrate an understanding of information security.
    17 Maintain working knowledge of current information-technology (IT) systems.
    29
    18 Demonstrate proficiency with technologies, tools, and machines common to a
    specific occupation.
    19 Apply mathematical skills to job-specific tasks.
    20 Demonstrate professionalism.
    21 Demonstrate reading and writing skills.
    22 Demonstrate workplace safety.
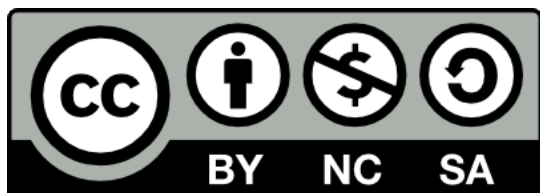
Spectrum Innovates
Spectrum Innovates Program
Spectrum Innovates Pathway Program
Spectrum Innovates Pathway Program at Vaughn College