



Gordon A. Cain Center

### MIDDLE SCHOOL STEM MODULES

1. Materials

Internet access, one-to-one computer or tablet for use daily, and access to the LSU servers.

<b>Reusable Hardware/Material for 1 class in each grade 6-8</b>	<b>Recommended Unit</b>	<b>Cost/Unit</b>
Various reusable material and hardware for projects	1 per Classroom	\$1000
<b>Consumables 6-8</b>		
Various consumables for projects	1 per Classroom	\$500
<b>Software 6-8</b>		
	1 per Classroom	\$0

\*Complete supply list can be found [here](#)

2. Required software, networking access, and access to LSU servers

Students and teachers will access the module materials through Google Drive.

3. Required teacher collaborations

Teachers will communicate with LSU instructors via emails, apps hosted on the LSU servers, and the band.us app. We ask that teachers share sample student work with their designated LSU Pathway Point-of-Contact.

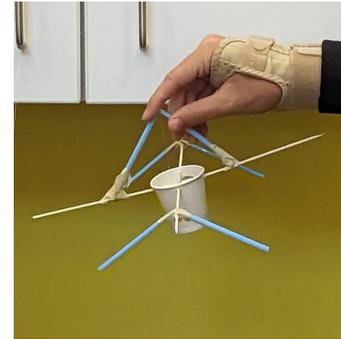
4. Required administration of course content, pre/post test, and research instruments

All required materials and instruments will be either posted in the LSU servers, Google Drive, or their location announced via email.

5. Course Work

Implementation of the STEM modules in the classroom is at the discretion of the teacher. We encourage teachers to implement as many modules as possible to maximize student exposure to high quality STEM content.

**LSU Cain Center**  
**Middle School Training Modules**  
**For Content Areas/ STEM Incorporation**



## 2D Stop Motion Animation

Teachers explore how students can create 2D Animation projects that can be used in any classroom for creating creative presentations. Teachers create their own 2d animations. For use in any content area!

## Gif Maker

This simple activity can be combined with other presentation activities to animate still images and enhance student presentations for a variety of projects.

## Claymation

Tell a story/ poem, share an experiment, or recreate an event in history! Using clay to create figures and backgrounds, students can visually present their thoughts and ideas to create great presentations in new and exciting ways! Teachers will experience the process as they make their own claymation.

## Digital Storytelling

Do your students need a way to express their thoughts and opinions, without using a slide deck? How about creating a video? This module will have teachers creating their own digital story in preparation for training students. Adding video, sounds, and music is easy after this training!

## Boom Card Training

Wanting a way to review students for a test, or see how well they understand a standard, but in a fun way? Try Boom cards! Learn how to create your own Boom card activities for every content area!

## EDP Build a Balloon Car

Does using the Engineering Design Process seem difficult to use ? This module models how to go through the process easily with your students and provides working knowledge of the EDP through the creation of your own Balloon Car! Then, you can use that knowledge to design your own projects related to your standards!

## EDP Paper Airplane

Does using the Engineering Design Process seem complicated? Uncertain where to start? This module demonstrates how to go through the process easily with your students and provides working knowledge of the EDP through the creation of a paper airplane that is the fastest, or has the longest flight, or both! Use that knowledge to design your own project related to your standards!

## Esports

Are you interested in Esports? We can provide you with materials and advice on how to build your own program at your school! Learn from the experts!

## Birdbrain Finch 2.0 Training

From icon- and block-based coding to advanced text-based programming, the Finch is a tool for elementary school, AP computer science, and every class in between! The Finch 2.0 is designed for teachers who are new to coding so they can meet the needs of students at all experience levels. Use the Finch to explore math, English, and science while learning computational thinking skills!

## Birdbrain Hummingbird Training

In this module you will learn the basics of programming, building, and teaching with the Hummingbird Robotics Kit. Learn to design, build, and program a personally meaningful robot out of any materials, with any device, in multiple programming languages! Use with all content areas!

## BBC Micro:Bit Training

The BBC micro:bit is a pocket-sized computer that introduces you to how software and hardware work together. It has an LED light display, buttons, sensors and many input/output features that, when programmed, let it interact with you and your world. Teachers will train to use the micro:bit in the classroom environment to help students solve various problems they encounter related to the content areas.

## Scratch

Scratch is a coding language with a simple visual interface that allows students to create digital stories, games, and animations for use in the classroom and beyond! Scratch promotes computational thinking and problem solving skills, self-expression, collaboration, and equity in computing.

## Code.org- computer science provider

Code.org® is dedicated to providing every student in every school the opportunity to learn computer science as part of their core K-12 education. Code.org has partnered with the Capital Area STEM Regional Network Center to bring Code.org into the classrooms in Louisiana. Courses, tools and resources will be shared, bringing computer science into all content areas.

## Tinkercad

Learn how to use the 3 aspects of Tinkercad to design wonderful classroom projects! Use 3d design, coding and electronics to bring project based learning to life!

More coming in Summer 2023!

