

Berrien Springs Partnership Syllabus and Instructor Qualifications

CLASS TITLE: Make It

GRADE OR AGE LEVELS: Grades 4th & up

START DATE: contact instructor for class dates **END DATE:**

WEEKS TOTAL: 17 weeks **WEEKS OFF:** 3

DAY/TIME REQUIRED: Wednesday 3-4:30pm **ADD'L DAYS/WK AVAILABLE:**

HOURS (REQUIRED): 26 **# HOURS (OPTIONAL):** 64 (approx.)

TOTAL SEMESTER HOURS POSSIBLE: 90

LOCATION/ADDRESS: STEAMWORKS: 606 Carrol St, Suite B, Buchanan MI 49107

MAIN INSTRUCTOR: Rob Kerr

CONTACT INFORMATION:

phone: 269-362-5046

email: rob@funlearningcompany.com

website: <https://FunLearningCompany.com/>

ADDITIONAL REGISTRATION AT SITE REQUIRED? NO

MAIN INSTRUCTOR QUALIFICATIONS:

I am passionate about helping students to explore new things and express their creativity. I have been teaching myself for the last eight years. For the last six of those, I've been partnering with different schools through the Fun Learning Company to teach critical thinking and STEAM courses. I enjoy tinkering and making things myself, and seek to encourage the entrepreneurial spirit in others as well. I have published my own card game, as well as writing and producing an album. One of my favorite things is when I can combine multiple interests together, like when I wrote a ukulele song for my Drone Building students to help them remember yaw, pitch & roll. I love hearing about my students' interests and seeing how we can bring those into our classroom as well. I hope to continue learning from, and with, young people for years to come.

COURSE DESCRIPTION (complete overview shown on website):

In this class, students develop skills in 2D and 3D design, using computer design software and a laser, 3D printer, and vinyl cutter machines. Students learn how to engrave their own designs onto many types of materials, such as paper, cardboard, wood, leather, and acrylic! They are also able to build 3-dimensional creations as we learn how to apply 2D designs on a computer

into 3D space.

This class will show students that there is no limit to the imagination! We start at a beginner level, going through the basics of digital graphic design. We then learn how to export our designs to the laser, 3D printer, and vinyl cutter. The best part of this course is watching your projects come to life! This class encourages students to design, engrave, cut, and create anything they put their minds to.

SYLLABUS/OUTLINE: weekly breakdown of Project-Based Learning activities

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| Week 1 – How laser works, sample run of a wooden sign, Intro to design software – start a design, use line drawing tools, use layers, add text, save. Assignment – design your own sign. |
| Week 2 – How to send job to laser and set values for speed, power, material thickness, get student designed signs running, how to mask thicker wood and why to do it, design software – insert shapes, resize, make text wrap, import clip art. Assignment – design wooden Christmas tree ornament |
| Week 3 – How to use laser beam to position design on material, get ornaments running, making a 3D object that has parts that fit together, design software – importing your own photos, flip, mirror, and rotate designs, fill and raster. Assignment – design a desk sign, chess piece, or something else made of several parts that fit together. |
| Week 4 – get 3D designs running, design software – using color mapping to assign varying values and minimize laser time. |
| Week 5 – Using acrylic. Setting values for speed, power, material thickness. Design software—using the shape tool. Make a snap fit small box. Assignment – design an acrylic Christmas tree ornament. |
| Week 6 – get ornaments running, learn about web sites to get free designs already made up, Assignment – design an acrylic 3D object. |
| Week 7 – get acrylic 3D objects running, find plans for something you want to make out of wood or acrylic, import into our software and prep design for cutting. |
| Week 8 – Continue with imported design and get them all cut and assembled. |

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| Week 9 – Using cardboard and paper, setting values for cutting and for scoring. Assignment – design a piece of paper scherenschnitte |
| Week 10 – get scherenschnitte running, making 3D objects out of cardboard. Assignment – design a 3D cardboard object |
| Week 11 – Using leather, values for cutting and scoring, design with holes for sewing it up. Assignment – design a key chain, wallet, or other small leather object. |
| Week 12 – get leather objects running, specialty materials – making rubber stamps, engraving on chocolate, working with cloth. Assignment – choose a project to make out of any material and start designing it. |
| Weeks 13 to end of semester – students work on individual self-chosen projects. Lots of trial and error, and redesign of what doesn't work. Design process practicum. |

COURSE OBJECTIVES AND APPROXIMATE TARGET DATES:

Students will learn the basics of digital graphic design and laser cutting with various types of materials. They will learn to design and create projects each week. The last few weeks each student will create a self chosen project incorporating the skills they have learned to complete the final project.

STUDENT ASSESSMENT - what will be used to evaluate student progress and/or end of semester pass/fail status?

All classes abide by the following:

- 1) Student agrees to attend at least 80% of class sessions/lessons offered. Attendance is kept online and tracked by Partnership staff. Failure to meet 80% or be on track to meet 80% may result in program discontinuation.
- 2) The Partnership Student Assessment or Performance Form is filled out by the teacher and turned in to Partnership staff. The link to this form is found on the web page for this class. Failing marks for lack of participation, behavior issues, practice time, etc. may result in program discontinuation.

Class-specific assessment:

Our instructor will evaluate each student using Berrien's evaluation form and passing criteria will be based solely on students attending and actively participating in the class sessions.

ADDITIONAL RESOURCES: (online, books, video, etc.):

Students will receive a membership to the Nile STEAM room, which they can access and use anytime during their normal hours of operation.

CLASS POLICIES: ATTENDANCE, BEHAVIOR, WEATHER, ETC.

Attendance: attendance is required and students should notify the instructor in advance of any absence.

Behavior: any behavior issues will first be privately brought to the attention of the parent and, should the behavior persist, to the partnership staff.

Weather: the classes will be cancelled on any days when Berrien Springs Public Schools are closed. We will also contact families to remind them of this in the event of a weather-related cancellation. We will make up any canceled class meetings at a later date.