Berrien Springs Partnership Lab Syllabus and Instructor Qualifications

LABS (CLASSES) ARE PROVIDED AS AN EDUCATIONAL SOURCE FOR PBL (PROJECT BASED LEARNING)

CLASS TITLE: Lego Robotics

GRADE OR AGE LEVELS: Age 9-14
START DATE: **Sept. 9, 2021** **END DATE:** **December 12, 2021**
***No class 11/25

 # WEEKS TOTAL: **12** **WEEKS OFF:** **DAY/TIME REQUIRED:** **ADD'L**
DAYS/WK AVAILABLE: Thursday 9-11 **# HOURS (REQUIRED):** 24
 # HOURS (POSSIBLE): **24**
TOTAL SEMESTER HOURS POSSIBLE: **24**

LOCATION/ADDRESS: DIRECTIONS TO LOCATION (if needed): **To Be Determined. Niles Maker Space or Brandywine Innovation Academy**

MAIN INSTRUCTOR: Meg Edwards

ADDITIONAL PRIMARY INSTRUCTORS (background checked):

CONTACT INFORMATION: **phone: 269-591-2231** **email:** **emeggke@sbcglobal.net**

ADDITIONAL REGISTRATION AT SITE REQUIRED? NO

MAIN INSTRUCTOR QUALIFICATIONS: Michigan Certified K-8 Teacher. 19 years experience coaching and teaching robotics.

COURSE DESCRIPTION (complete overview shown on website):

Each student will learn to build and program a Lego Robot using a kit of parts and a pattern. We will explore the use of sensors to increase accuracy in programming. Several

opportunities will be available for students to use what they are learning to accomplish missions. To accomplish missions students will design, build, and test their own ideas. At the last class meeting parents and family are invited to come and see what the students have accomplished during the semester.

Please bring a notebook. (composition, spiral, etc.)

No experience necessary.

SYLLABUS/OUTLINE: WEEKLY BREAKDOWN OF PROJECT-BASED LEARNING ACTIVITY

Week 1: Build the robot from the kit of parts.
Week 2: Programming. Forward, Backward, Turns.
Week 3: Review week 2. Make a square.
Week 4: Touch Sensor introduction. Introduction to missions
Week 5: Strong building. Bridge building challenge.
Week 6: Programming to accomplish missions. Start missions.
Week 7: Light Sensor introduction. Follow a line challenge.
Week 8: Work to accomplish missions.
Week 9: Gyro Sensor introduction. 2 sensor program challenge.
Week 10: Work to accomplish missions.
Week 11: Catch up and practice for parent's visit.
Week 12: Showcase.

COURSE OBJECTIVES AND APPROXIMATE TARGET DATES:

Steps to check for student understanding, along with dates or # of weeks into class:
Week 3: Students will be able to program their robot to move forward, backward, and turn with minimal assistance.
Week 6: Students will be programming to accomplish missions with minimal help. Informal assessment of skills during class.
Week 10: Students will have completed at least 2 missions and will be able to program the 3 sensors.

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

An assessment checklist will be used to evaluate progress. It will contain attendance and a list of the above skills. Progress will be determined by oral and visual communication.

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.

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

CLASS POLICIES: ATTENDANCE, BEHAVIOR, WEATHER, ETC.

Attendance: Students are expected to be on time and stay for the entire class. The most important part of the lesson happens early in class.

Behavior: Students are expected to show respect for others and for class materials.

Weather: If schools close, we will not have class. If weather looks like it will get worse before/during our class, we may close. I will notify you by text as soon as I know. We will have make up classes if we miss more than one class.

Other: