Berrien Springs Partnership Lab Syllabus and Instructor Qualifications **LABS (CLASSES) ARE PROVIDED AS AN EDUCATIONAL SOURCE FOR PBL (PROJECT BASED LEARNING)**

COMMUNITY CLASS TITLE: VEX Robotics; RoboTech Zone of Michiana

**GRADE OR AGE LEVELS: 7-12**

**FORMAT: IN-PERSON**

**DAY AND TIME OF THE WEEK: Thursdays 4pm - 8pm**

**TOTAL REQUIRED HRS: 36**

**ADD’L POSSIBLE HRS (OPTIONAL TIME): Competition dates/times TBD**

**TOTAL SEMESTER HOURS POSSIBLE: 60+**

**LOCATION: Brandywine Innovation Academy 1830 S. 3rd St. Niles, MI 49120**

**INSTRUCTOR: Chris Kimmey, Bob Smith**

**CONTACT INFORMATION: 517 227 7500** [**robotechzoneofmichiana@gmail.com**](mailto:robotechzoneofmichiana@gmail.com)[**https://www.facebook.com/robotechzone**](https://www.facebook.com/robotechzone?mibextid=LQQJ4d)

ADDITIONAL REGISTRATION AT SITE REQUIRED? No

INSTRUCTOR QUALIFICATIONS; Instructors have 25 plus years combined engineering and technical experience.

COURSE DESCRIPTION (OVERVIEW): The program is VEX VRC, competitive robotics. Every year, students work together in small groups to design, build, and program a robot to participate in a new game challenge. In VEX Robotics, teams are tasked with designing and building a robot to play against each other in a game-based engineering challenge. STEM concepts are put to the test as students learn lifelong skills in teamwork, leadership, and communication.

Students will participate in three or four competitions starting in October as part of the Mega League based out of the Grand Rapids, MI area. The program also typically participates in at least two Saturday tournaments in the December through February timeframe. Our program also accommodates in-house scrimmage teams for those that cannot travel. For those teams progressing beyond the regular season, to State, Nationals, or Worlds, the season may continue through April.

Usual Meetings times are Thursdays from 4pm-8pm with some Mondays as needed. League nights and tournaments may vary.

SYLLABUS/OUTLINE: WEEKLY BREAKDOWN OF PROJECT-BASED LEARNING LAB ACTIVITIES Students work in small teams and will follow the engineering design process throughout to build and program a competitive robot capable of meeting the requirements of this year's game challenge. This involves defining the game, including scoring and strategy. Students develop solutions, design, build, test, verify, and continually evaluate and optimize the robots all while documenting the process.

COURSE OBJECTIVES AND APPROXIMATE TARGET DATES:

Students will work towards understanding the engineering process while building and programming a basic robot for competition within the first six weeks of class prior to going into the first competition.

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

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 into 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:**  We will evaluate each student using the BSP evaluation form and passing criteria will be based on student attendance and participation in weekly class sessions.

**ADDITIONAL RESOURCES: (online, books, video, etc.):** <https://www.youtube.com/watch?v=dvDqEI7qO34>

CLASS POLICIES: ATTENDANCE, BEHAVIOR, WEATHER, ETC.

**Attendance: Attendance is required, and the instructor is to be notified in advance of any absence.**

**Weather: Classes will be canceled in conjunction with Brandywine school system closings.**