

# CHCA Intercession 2019

January 7-18, 2019

Course Description for: **Robot in 5 Days**

---

Instructor(s): <b>Andy Ciarniello</b>	
Course Type: <b>Local Day (Greater Cinti Area)</b>	Service Hours: <b>10</b>
Maximum enrollment: <b>40</b>	Minimum enrollment: <b>5</b>
<b>Cost:</b>	\$ 200

---

**Overview:** Students will create a Minimally Competitive Concept for the 2019 *FIRST* Robotics Competition game. They will document their process and results and share them with local *FIRST* teams and the greater FRC community.

- Course Goals:**
- Students will go through the engineering process with a focus on strategic design, resulting in a robot that is a valuable member of an alliance and able to be created for less than \$1,000
  - Students will prototype and design multiple mechanical subsystems to complete specific tasks
  - Students will program a complex machine in Java, including autonomous capability
  - Students will document their design decisions, tradeoffs, strengths, weaknesses and opportunities for improvement.
  - Students will produce multiple videos and social media updates to explain their process and results

---

**Writing Component:** Students will utilize engineering notebooks and social media to document and share their process and results

## Description:

Students will be creating and documenting a Minimally Competitive Concept robot to compete in the 2019 *FIRST* Robotics Competition game. The game will be revealed on January 5, 2018 and we will have five days to complete our robot and reveal our design. Students will work with Mr. Ciarniello and professional engineering mentors to prototype, design, build and program a robot that completes at least one of the game challenges. Deliverables at the end of the two-week course will be a complete 3D CAD model, Bill of Materials, Design Decision-making document, update posts, and reveal video.

### Sample of daily plan

8:00 am Morning Huddle  
8:30-12:00 pm Design and build  
12:00 pm lunch  
12:30-5:30 pm Design and build  
5:30 pm Dinner and Evening Huddle  
6:00-8:15 pm Design and build  
8:15-8:30 pm Evening debrief

It is possible but not guaranteed that the students may earn additional service hours during the course if we have time to assist other teams in the area.

# CHCA Intercession 2019

January 7-18, 2019

Course Description for: ***Robot in 5 Days***

---

**This course is well suited to:** Students who enjoy solving complex problems, mechanical design, programming, electrical work, video production and social media. NOTE: students must be members of the Beak Squad by September 1, 2018.

---

**Cost:** \$ 200  
**Additional costs:**

---

**Other Information:**

Please note students will be using power tools daily, please do not select this trip if you are opposed to your student using sharp tools. A separate power tool waiver will also be signed online designating which power tools your student can use.

IMPORTANT Note: Students will be required to meet Saturday January 5<sup>th</sup>, 2018 at 9:00 am-8:00 pm.

---

Final 04.10.18