

FRC Team 3182

Innovate. Iterate. Illustrate.

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Athena's Warriors MMXVI SPONSOR SCROLL



During the off-season, members took apart last year's robot and created a battery cart. Mentors and veterans held workshops on Tuesdays for recruiting, giving new team members an opportunity to learn.

At the start of build season, we watched the *FIRST* kickoff animation, learned about this year's game, *FIRST STRONGHOLD* and spent the rest of the day going through the game manual. Learn more about *FIRST STRONGHOLD* on the next page.

Now we're two and a half weeks into build season! After brainstorming ideas, we picked two designs and built prototypes of them, which were then displayed to the rest of the team to determine what we wanted to really build. We have built wooden versions of some of the *STRONGHOLD* outer works defense structures: the rock wall and the portcullis; we are currently working on the low bar.

The programming team has been coding controls these past two weeks. The mechanical team has been designing robot appendages in SolidWorks, a computer-aided design (CAD) program. The marketing team has been working on the website and coming up with a T-shirt design for this year, incorporating *STRONGHOLD* defenses into it.

The team this year has come up with a great idea: using the Nintendo Power Glove to control our robot and automate the lights on our robot. We are currently testing this idea.

Come see Athena's Warriors build their robot at the MakeHartford makerspace (30 Arbor Street in West Hartford, CT) every Monday through Thursday from 6-9 p.m. and Saturdays from 10 a.m. until 5 p.m. from now until the end of February.

FIRST PARTICIPANT IMPACT

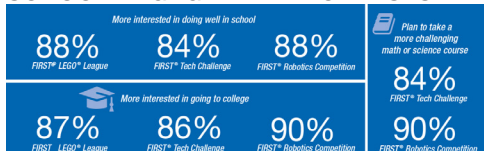
STEM MAJOR



21ST CENTURY WORK-LIFE SKILLS



SCHOOL ENGAGEMENT INCREASES



Mark your calendars:
we will be competing at the
Hartford District Event at
Hartford Public High School
April 1-3, 2016!



FIRST STRONGHOLDSM

Today, and at more than 125 events around the world this season, Alliances of three robots are on a Quest to breach their opponents' fortifications, weaken their tower with boulders, and capture their tower.

The Quest

- Robots operate independently for first :15 seconds
 - Alliances score points by autonomously:
 - Reaching opponents defenses
 - Crossing defenses
 - Scoring boulders in the opposing tower
- Human drivers take control for the final 2:15 minutes:
 - Defend their castle
 - Retrieve boulders
 - Defeat defenses
 - Score goals from the opponents' courtyard in tower
 - Capture and scale the opponent's tower

- Once the Quest begins:
 - Illuminated lights on each defense reduce when an opposing robot fully crosses it for first time
 - These lights go dark after the defense has been crossed a second time, signaling it's considered damaged
 - Once any four of the five defenses are damaged, the fortifications are considered breached and the charging Alliance is rewarded with points

The Tower

- Openings in the tower are available for robots to score boulders
 - Scoring boulders reduces a tower's strength as indicated by decreasing tower lights
 - The tower's flag will drop when enough boulders are scored and then the tower can be captured at the end of the Quest

The Outer Works *(outermost line of fortification)*

- Eight defensive options (18,000+ possible configurations):
 - One permanent (the low bar)
 - One chosen periodically by the audience
 - Three selected by Alliances just before each Quest

The Capture

- During last 20 seconds of the Quest, robots may surround and scale the tower to capture it
- When capture is successful, their flag is raised on the opposing tower and even more points are earned

The Alliance with the highest score at the end of the Quest wins!

