

**MISF**  
**STEM Education**  
**Conference**  
August 3, 2022

Let's Code!

Try out the CoderZ  
Platform!



# INTRODUCTIONS

Cheryl Moeller, Executive Director, High Tech Kids

- Worked as an Electrical Engineer for 7 years
- Worked in informal STEM education since 2004 (Bakken Museum, University of St. Thomas STEPS program, STEM Ahead and High Tech Kids)
- Frustrated by own coding experience in college and lack of knowledge
- Proud mom of 3 computer scientists

Jeannie Badger, Programming Lead Trainer, High Tech Kids

- Entrepreneur, business background, tutorial lover
- Has coached FIRST LEGO League and FIRST Tech Challenge for many years
- Owned her own robotics education business
- Certification by Carnegie Mellon Robotics Education
- High Tech Kids expert in CoderZ

# HIGH TECH KIDS STEM PROGRAMS

High Tech Kids is the Minnesota Partner for these STEM programs



150 MN Teams



412 MN Teams



168 MN Teams



We expect to support over 900 robotic teams in the 2022-2023 season!

# FIRST PROGRAMS



## FIRST LEGO League Explore

September through April  
6 to 9 year olds (K – 3rd grade)  
Teams of 2 to 6 kids  
**2021 MN teams: 150**  
**750 students**



## FIRST LEGO League Challenge

September through February  
9 to 14 year olds (4<sup>th</sup>- 8<sup>th</sup> grade)  
Teams of 3 to 10 kids  
**2021 MN Teams: 412**  
**2,884 students**



## FIRST Tech Challenge

September through March  
13 to 18 year olds (7<sup>th</sup>- 12<sup>th</sup> grade)  
Teams of 3 to 15 kids  
**2021 MN teams: 168**  
**1,176 students**

# CoderZ PROGRAMS



## CoderZ Leagues

October through January  
9 to 18 year old (4<sup>th</sup>- 12<sup>th</sup> grade)  
Teams of 6 students

**2019 MN Teams: a few?**  
**2020 MN Fall Teams: 41**  
**2021 MN Spring teams: 8**

## CoderZ Curriculum

annual license  
9 to 18 year old (3<sup>rd</sup>- 12<sup>th</sup> grade)  
Curriculum sold as a package

**2019 MN schools: 0**  
**2020 MN schools: 7**  
**2021 MN schools: 8**

**CoderZ** is a powerful, award-winning online platform through which students learn valuable STEM skills such as **coding, robotics,** and **physical computing.**

**CoderZ** is **highly flexible** and designed for use **in the classroom** or through a wide range of **remote learning** environments.





# Three Leagues



## NOVICE

4<sup>th</sup>-6<sup>th</sup> Grade

Intro to STEM for students with no previous robotic & coding



## JUNIOR

4<sup>th</sup>-9<sup>th</sup> Grade

Student with some previous robotic & coding



## PRO

7<sup>th</sup>-12<sup>th</sup> Grade

Student with significant robotic & coding



# How Does It Work?



[https://youtu.be/HS\\_JBw84c2I](https://youtu.be/HS_JBw84c2I)

# 6 Reasons to Make Virtual Robotics Program a Core Part of Your Curriculum

July 06, 2021

*Why all schools should integrate a virtual coding and robotics platform into their learning environments.*

GUEST COLUMN | by Paul Keeney



<https://www.edtechdigest.com/2021/07/06/6-reasons-to-make-virtual-robotics-program-a-core-part-of-your-curriculum/>



***‘MIDDLE SCHOOL STUDENTS LIKE ACTION, AND THEY LIKE THINGS TO HAVE A PURPOSE.’***

- 1. Virtual robots are just as “real” as their physical counterparts**
- 2. Virtual robotics helps students develop new skills.**
- 3. They support equity in education.**
- 4. Kids can work at their own pace.**
- 5. Students love it.**
- 6. Teachers can easily track student progress and understanding.**

- Learning Center
- CoderZ League
- My Classes
- My Projects
- Scoreboard
- Administrator
- Knowledge Base

## My Courses

## Scoreboard

### Grades 3-5

**The CoderZ Adventure**

A lightweight course that will enable your students to learn coding, robotics, and math.

[TEACHER'S GUIDE](#)

Novice

**CoderZ Adventure with LEGO Education SPIKE™ Prime**

A lightweight course that will enable your students to learn coding, robotics, and math.

[TEACHER'S GUIDE](#)

Novice

### Grades 6-8

**Cyber Robotics 102**

This course is the second year of the Cyber Robotics curriculum. Year 2 runs in a new physics simulator, and runs Ruby, a new robot.

[TEACHER'S GUIDE](#)

Intermediate

**Amazon Cyber Robotics Challenge**

Become an essential part of the Amazon Fulfillment Process in this course about basic programming, critical thinking, and mobile robotics.

[TEACHER'S GUIDE](#)

### Grades 7-9

**Cyber Robotics 101**

CoderZ Cyber Robotics 101 is a lightweight curriculum pack that will enable your students to quickly learn the basics of robotics including navigation, sensors, loops and more.

[TEACHER'S GUIDE](#)

Beginners

### Grades 7-12

**Python Gym**

Program Ruby using Python and solve a variety

**CoderZ League Junior Training Camp**

Get to know your robot and explore system

[? Help](#)



- Movement
- Control Flow
- Data
- Utilities
- Smart Blocks Beta

```
Main  
Program start  
set motor power Left 100 % Right 100 %  
wait for 4000 milliseconds  
brake until stop
```

Reset Simulation

SPEED  
GYROSCOPE  
ENCODER  
COLOR  
ULTRASONIC(cm)  
TOUCH

00:00 0

Console

Help

app.py

x






```
1 from robot import Robot
2 import time
3
4 robot = Robot({"communication":{"communication_manager_type":
5
6 #start your code here:
7
8 robot.cs.set_power(100,100)
9
10 time.sleep(0)
11
12 # robot.cs.brake("both")
13
```



**Teacher**Name: Jeannie Badger  
53600

Score : Students score :

**Class**Name: HTK Robotics  
Score:  
53600

RANK	AVATAR	FIRST NAME	LAST NAME	SCORE	COMPLETED MISSIONS	AVERAGE ATTEMPTS
1		Craig	Hamilton	5000	50	1.5
2		Rob	Neitzel	5000	50	2.6
3		Dan	Oelke	4900	49	1.5
4		Sarah E	Smith	4700	47	3.5
5		John	Wojciuk	4300	43	2.8

Your turn to play with CoderZ!

Some quick Slide Views:



Log In

Join a Class

 Username / Email

 Password

Login

Remember me

[Forgot your password?](#)

Or



Sign in with Google



Sign in with ClassLink



Sign in with Clever



Sign in with Microsoft



Log In

Join a Class

 Class code

pmf1zyj5ia

Go





## Create Account and Join Jeannie Badger's CoderZ Class

Already have an account?

Log In

Or

Don't have an account?

Sign up

[Already have an account? Log In](#)

Need assistance? [Contact support](#)



## Create Account and Join Jeannie Badger's CoderZ Class

 Username

3-20 alphanumeric only, no special characters

 Password

● 6 characters minimum ● No spaces

● Only English letters

 Confirm password

Next

[Already have an account? Log In](#)



Sign in with Google



Sign in with ClassLink

C

Sign in with Clever



Sign in with Microsoft

Or

Need assistance? [Contact support](#)

## Create Account and Join Jeannie Badger's CoderZ Class

How old are you?

Grade

Gender

First Name

Last Name

I agree to the [terms of service](#)

Login

[Already have an account? Log In](#)

Need assistance? [Contact support](#)

My Courses

Scoreboard



The CoderZ Adventure

A lightweight course that will enable your students to learn coding, robotics, and math.

Novice



CoderZ Adventure with LEGO Education SPIKE Prime

A lightweight course that will enable your students to learn coding, robotics, and math.

Novice



Cyber Robotics 102

This course is the second year of the Cyber Robotics curriculum. Year 2 runs in a new physics simulator, and runs Ruby, a new robot.

Intermediate



Cyber Robotics 101

CoderZ Cyber Robotics 101 is a lightweight curriculum pack that will enable your students to quickly learn the basics of robotics including navigation, sensors, loops and more.

Beginners



Python Gym

Program Ruby using Python and solve a variety of missions, implementing advanced coding and engineering concepts.

Advanced

 Help

By using our site, you acknowledge that you have read and understand our [Privacy Policy](#), and our [Terms of Service](#)

Accept

Your turn to play with CoderZ!

Head to this address:

**[play.gocoderz.com](https://play.gocoderz.com)**



Log In

Join a Class

 Class code

pmf1zyj5ia

Go

# 2021 PRICING

## CoderZ League

- \$290/team (6 students/team)
- 50% off 5+ teams
- Add Curriculum at time of registration - \$240/team

## CoderZ Curriculum

- Less than 30 seats - \$35.00/student
- 30-99 seats - \$22.00/student
- 100+ seats - \$18.00/student
- School/Site License – 1,000 seats - \$2,400
- Multi-Product Discounts – 50% off 2<sup>nd</sup> Course

## Potential FUNDING –

- East metro, for 50% or more students of color and/or low income, Funding for curriculum, leagues and an educator stipend (\$1,000) Details on our website
- MISF STEM grant
- Future funding may be announced, sign up on High Tech Kids CoderZ e-newsletter to be informed of any new funding.

[www.hightechkids.org](http://www.hightechkids.org)

Jeannie Badger: [jeannie@hightechkids.org](mailto:jeannie@hightechkids.org)