

# PROBLEMS YOU HAVE NEVER SOLVED BEFORE

## VAMPY 2024

### INSTRUCTOR/TA INFORMATION

Catherine Poteet  
SKyTeach Master Teacher  
WKU  
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Catherine is a Master Teacher with WKU's SkyTeach program – Math and Science Education. She taught Physics in the public school system for 17 years before coming to WKU. This is Catherine's fourteenth year with the VAMPY program.

Tristann Burks  
SKyTeach Student  
WKU  
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Tristann will be student teaching in Middle Grades Science this coming Spring semester. She has worked with The Center for Gifted Studies through Super Saturdays courses in the past.

Your course instructors both espouse methods of teaching that minimize teacher-led direct instruction and maximize inquiry based hands-on and minds-on instruction that challenges student-led exploration of science concepts. This idea for this course came from discussing the lack of problem-solving skills that many students exhibit due to a large majority of teachers in the public schools that are not equipped to do hands-on activities. Students in this course will explore science content through challenge based activities that seek to solve real world problems. The goal of this course is to develop and inspire students to think critically and broadly as innovators. *If you have any questions or concerns, please feel free to contact either of us.*

### CLASS DESCRIPTION

Have you ever had to mail a potato chip? Build a bridge out of spaghetti? Drop an egg from four stories high with only a few household materials to safely protect it? This class is designed to stretch problem-solving and creative thinking skills. Students will be required to use evidence and deductive reasoning to solve unique, real-world problems through the engineering design process of creating, testing, and improving.

**Prerequisite:** Algebra I or equivalent course

**Qualifying Scores:** ACT-M $\geq$ 20 or ACT-ENG $\geq$ 20 or ACT-S $\geq$ 21 or ACT-R $\geq$ 21 or SAT-M $\geq$ 520 or SAT-CR $\geq$ 510

### ACTIVITIES PLANNED (OTHERS ARE NOT LISTED)

- Egg Drops
- Parachutes
- Mailing a Pringle
- Rockets
- Spaghetti Towers
- Paper Towers
- Tallest Towers
- Catapults

- Paper Airplanes
- Crossbows
- Bridges
- Write-It, Draw-It, Build-It
- Photography
- Ozobot robot programming
- Aluminum Boats
- Mystery problem solving