



DEPARTMENT OF

# COMPUTER SCIENCE



- Collaborative Degree Programs

CS+X

X+CS

- Improving STEM Pipeline

CS@Mines on Tour

CS@Mines Activities

DECTech

**CS@Mines**



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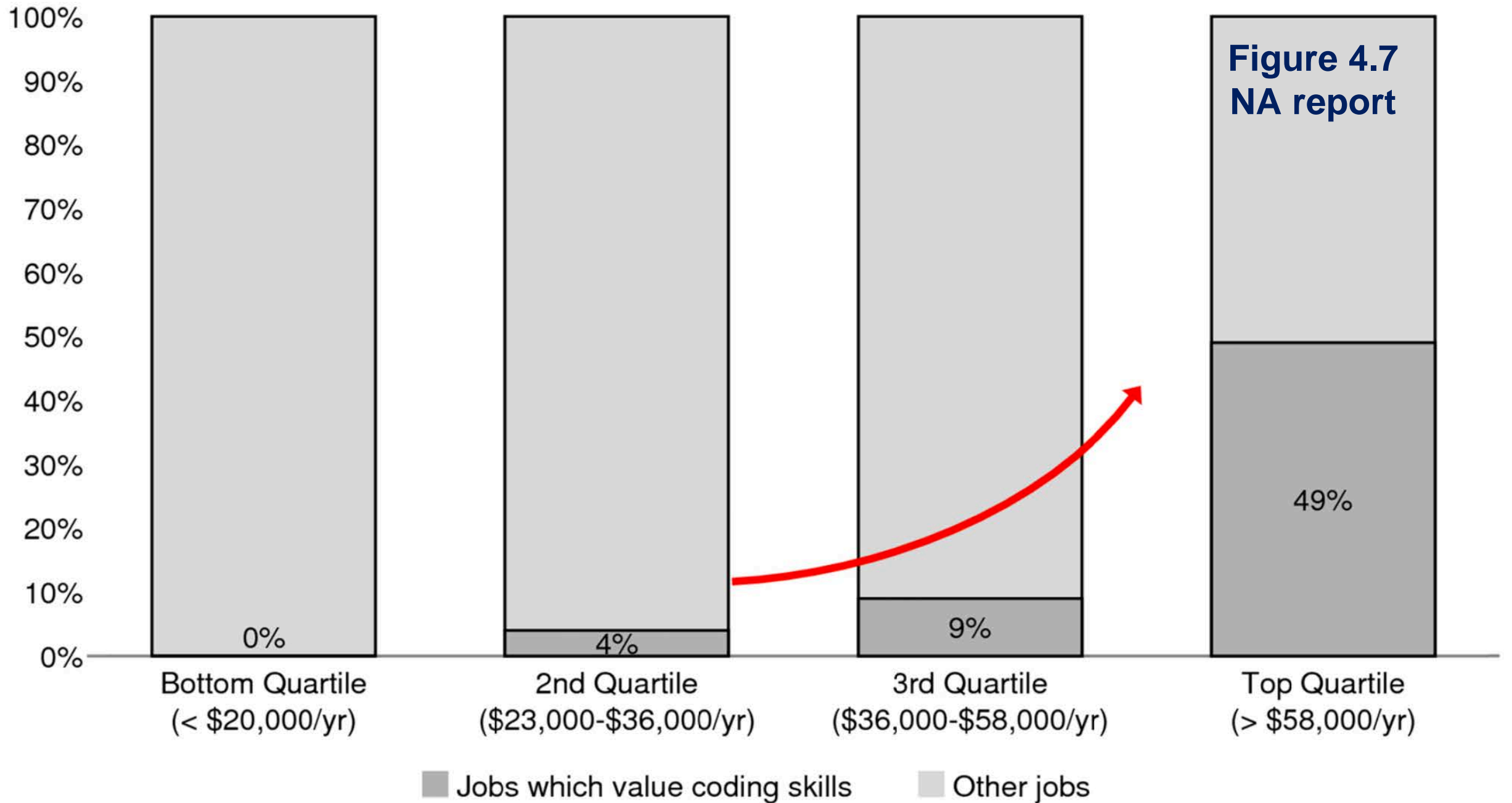
CS@Mines Activities

DECTech

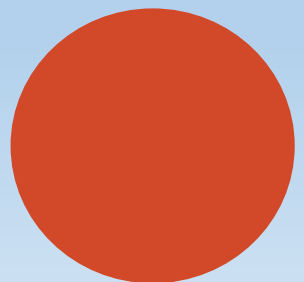
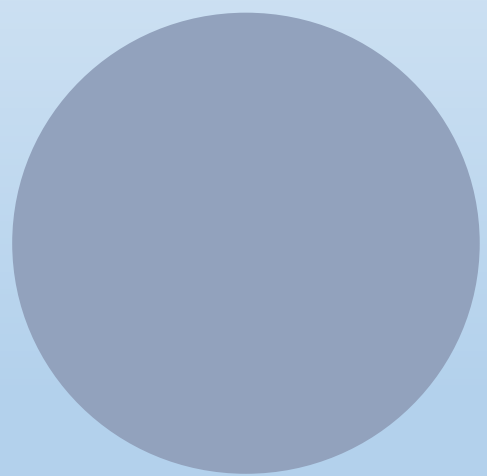
**CS@Mines**

# Why CS?





**Figure 4.7**  
**NA report**



**CS + X**



# Computer Science Majors

- CS
- CS + Computer Engineering
- CS + Data Science
- CS + Robotics & Intelligent Sys
- CS + Business (proposed)

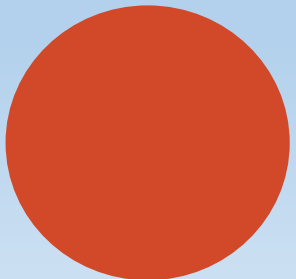
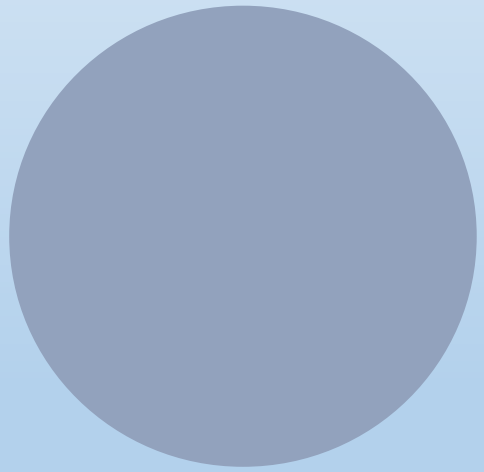
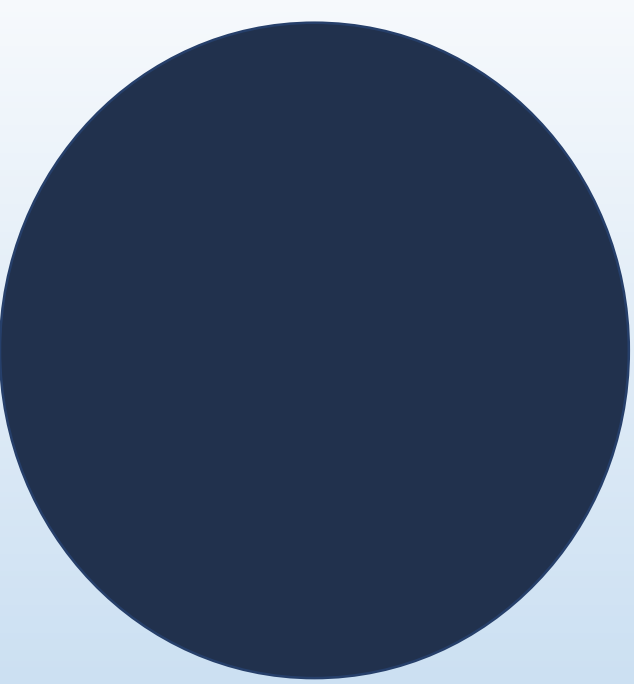
**CS@Mines**



# Computer Science Minors

- CS
- Computer Engineering
- Data Science
- Robotics & Intelligent Systems

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**X + CS**





# X + CS

Physics

CSCI 250

Geophysics

CSCI 250, CSCI 303

MechE

CSCI 102



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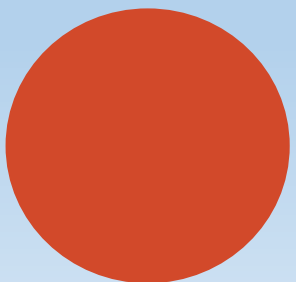
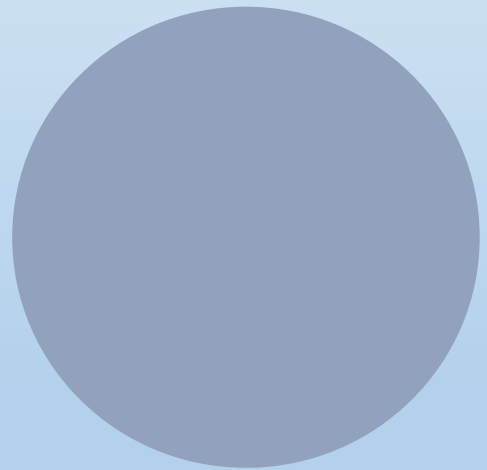
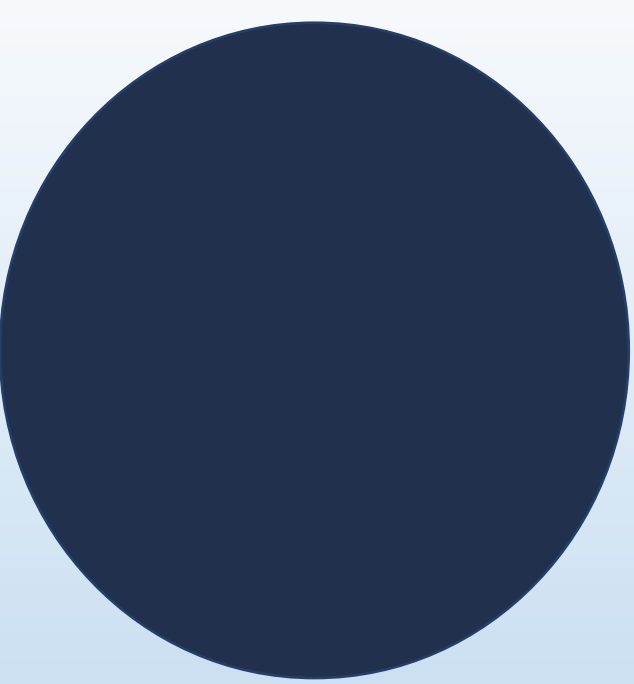
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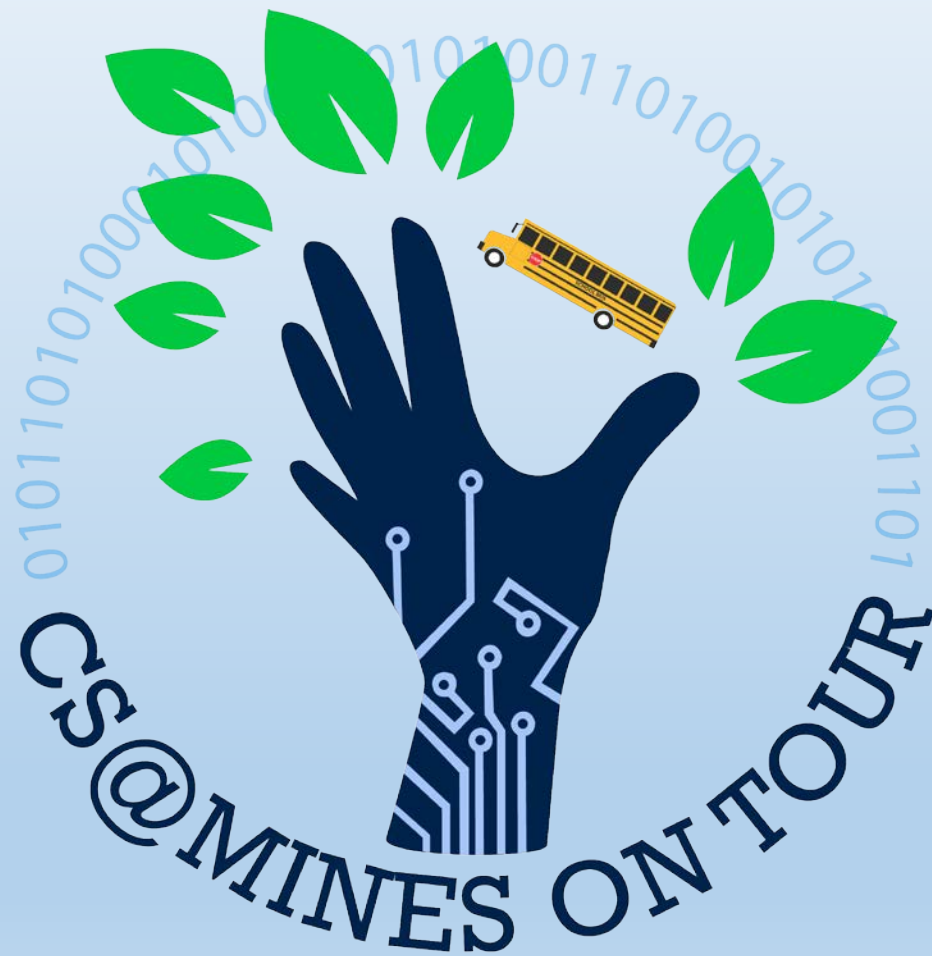
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**On Tour**

# Program Overview

**Goal:** share benefits of studying CS to 3<sup>rd</sup>-12<sup>th</sup> grade students and teachers.

**Implementation:** team of 12 CS@Mines undergraduate students and one graduate student.

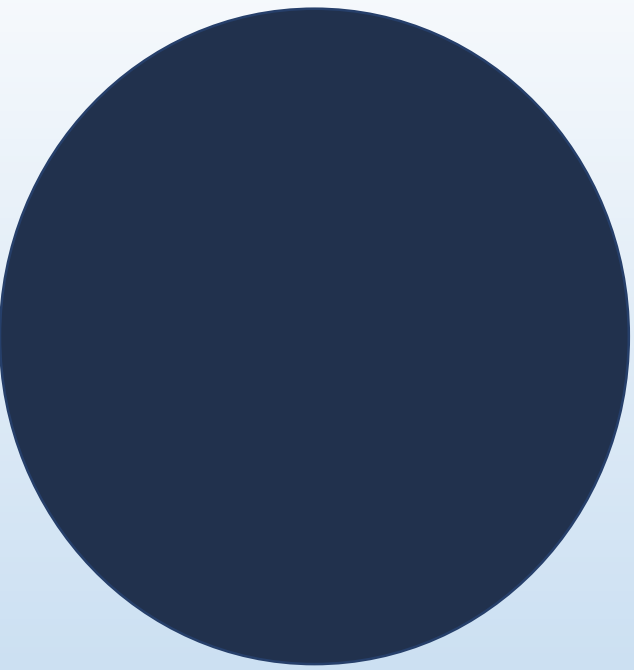




# Program Overview

## High School Classroom Visits:

- Address stereotypes in computer science
- Discuss career options in computing
- Share real undergraduate classroom experience and typical projects completed
- Engage high school students with an interactive presentation



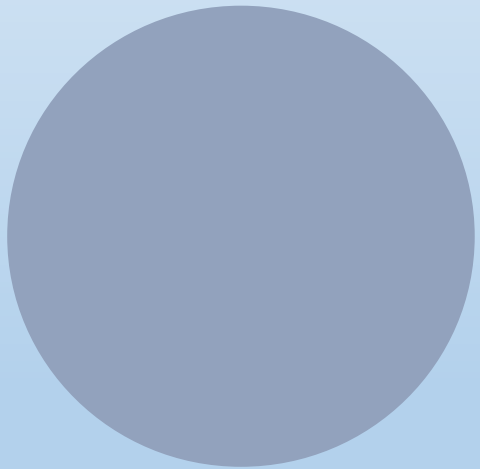
## **Spring 2017**

High School students reached: 776

High Schools reached: 11

Middle/Elementary School students reached: 1355

Middle/Elementary Schools reached: 18



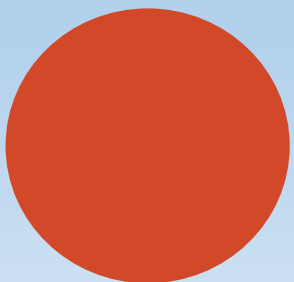
## **Fall 2017**

High School students reached: 682

High Schools reached: 12

Middle/Elementary School students reached: 1453

Middle/Elementary Schools reached: 15



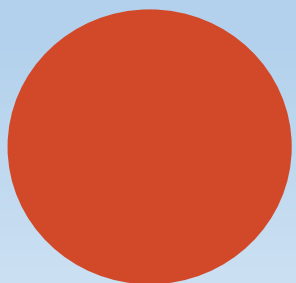
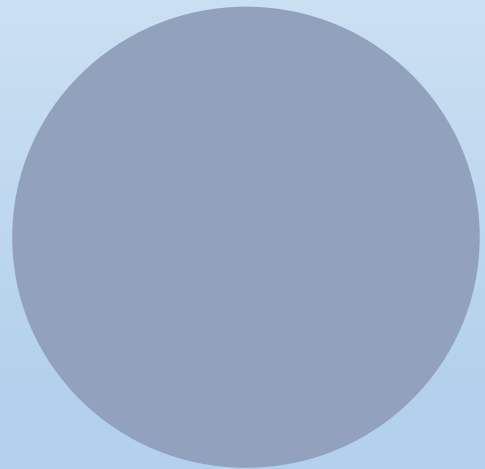
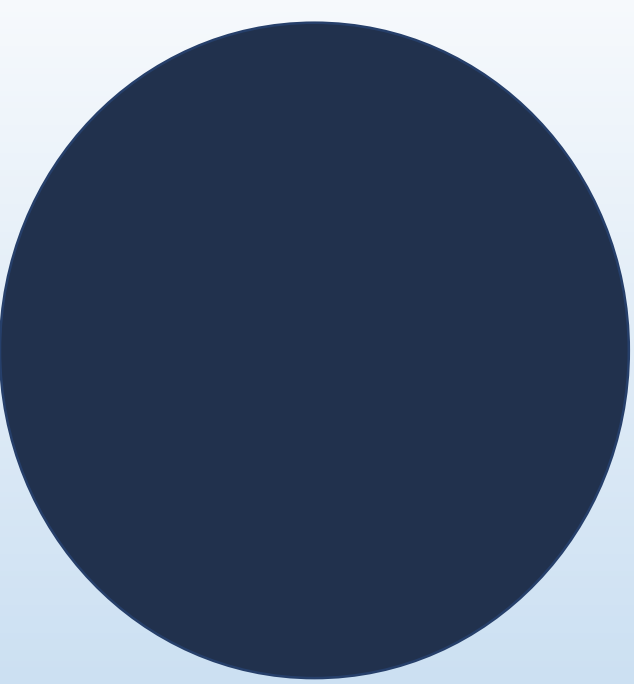
**4,266 students reached**

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# Survey Data

**100%** of teachers said they would **recommend CS@Mines On Tour** to other teachers

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**Activities**



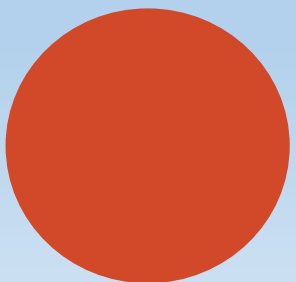
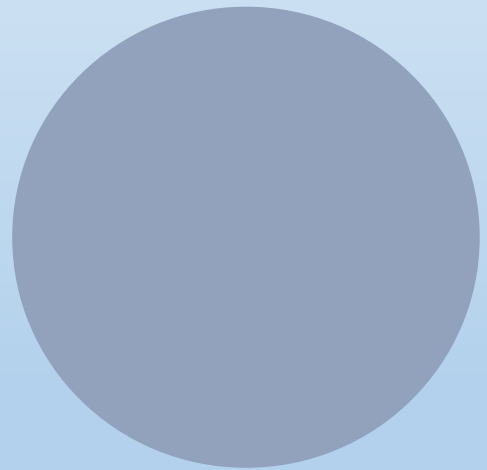
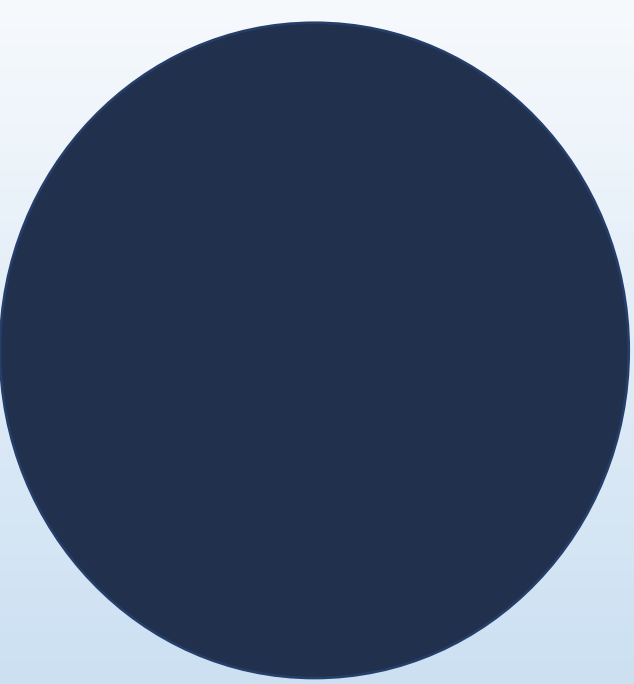


# CS@Mines Activities

**Scholarships** for academically talented low-income students to study computer science at Mines (PATHS)

## **Student Experience**

- What do you want to do? Funch or Fike
- 10 Truths and a Lie
- Puzzle Challenge (sponsored by Google)
- CS Research Honor's Program
- etc.



**STEM**

**Diversity**



# DECtech

DISCOVER · EXPLORE · CREATE

## DISCOVER.EXPLORE.CREATE

Research indicates that introducing and fostering interest in STEM subjects by **women role models** through **interactive activities** is important to encourage girls in STEM.

# DECtech Instructors



+ 15 DECtech Assistants  
(not shown)

are Mines majors in  
CS, MechE, Physics,  
Math, Civil, Geology,  
etc.



## DECtech Growth – # Participants

### Fall Semesters

2013: 161 girls  
2014: 252 girls  
2015: 260 girls  
2016: 237 girls  
2017: 265 girls

### Spring Semesters

2014: 202 girls  
2015: 314 girls  
2016: 337 girls  
2017: 357 girls

# DECTech Program Awards



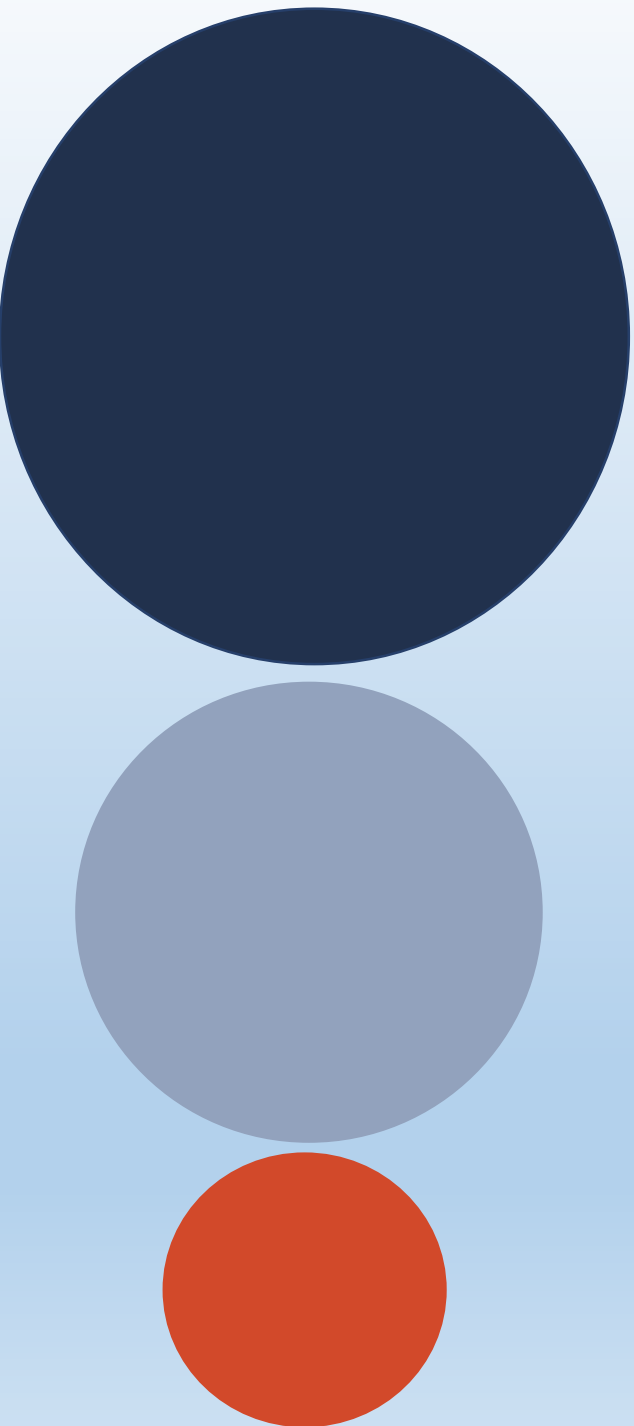
MLK Award



Stand Up for  
STEM Award



Goldmine Award



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