K-12 OUTREACH
COMPUTER SCIENCE

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WHAT IS OUTREACH?

PURDUE K-12 OUTREACH FOR COMPUTER SCIENCE

- Organized effort to influence the conversation about computer science education
- Opportunity to engage in teacher development and support
- Focus on inspiring K-12 students to develop their interest in computing, problem solving, and technology
- Ability to expand the potential recruiting base for Purdue University
MAJOR CHALLENGES

• Improving the understanding of what computer science is

• Finding the right context for computer science in K-12 curriculum

• Defeating the stereotypes that negatively affect the perception of computer scientists

• Developing opportunities for meaningful interventions
## Indiana K-12 & Purdue CS Growth

**Purdue K-12 Outreach for Computer Science**

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<thead>
<tr>
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<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Indiana’s K-12 enrollment</td>
<td>1,041,311</td>
<td>1,046,026</td>
<td>1,046,146</td>
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<tr>
<td>Indiana AP CS A exams / total AP exam takers</td>
<td>391/42230 (0.93%)</td>
<td>507/44390 (1.14%)</td>
<td>691/46466 (1.48%)</td>
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<tr>
<td>Purdue CS enrollees / total enrollees</td>
<td>282/7117 (3.9%)</td>
<td>311/6808 (4.6%)</td>
<td>461/7151 (6.4%)</td>
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<tr>
<td>Purdue CS undergraduates / total undergraduates</td>
<td>821/29440 (2.8%)</td>
<td>948/29255 (3.2%)</td>
<td>1263/29497 (4.2%)</td>
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</tbody>
</table>

For more information, visit:

- [http://compass.doe.in.gov/dashboard/overview.aspx](http://compass.doe.in.gov/dashboard/overview.aspx)
- [http://www.purdue.edu/enrollmentmanagement/researchanddata/enrollmentsummary.html](http://www.purdue.edu/enrollmentmanagement/researchanddata/enrollmentsummary.html)
• 20th Anniversary of Summer Camp
• 48 total students
• Middle School – Mobile App Development
• Student tuition covers about 60% the operating cost
ONLINE CS 180 FOR HIGH SCHOOLERS

PURDUE K-12 OUTREACH FOR COMPUTER SCIENCE

• Self-paced online version of Purdue’s first programming course
• 335 students in two years
• Moving to edX platform, expected increase to 2000-5000 students
• Students are able to take AP exam upon completion, and will receive high school credit in some cases.
• Taught by Phil Sands and Sunil Prabhakar, supported by undergraduate teaching assistants
MAGIC MENTORING
PURDUE K-12 OUTREACH FOR COMPUTER SCIENCE

• Purdue students mentoring high school women in after-school clubs
• Three participating high schools
• Corporate field trips
• State Farm, Salesforce, Boeing, Google sponsoring clubs

https://www.facebook.com/PurdueMAGIC
REACH OUT FOR COMPUTER SCIENCE

PURDUE K-12 OUTREACH FOR COMPUTER SCIENCE

Bring CS to schools without
Work with youth-serving organizations
to engage students in CS
• Provide Purdue students with an opportunity to develop leadership skills, and give back to community.
CS TEACHER WORKSHOPS
PURDUE K-12 OUTREACH FOR COMPUTER SCIENCE

- IBEA Conference CS Track
- CSTA / Purdue Summer Workshop
- Support for CSTA which in turn supports Indiana’s CS teacher population