MISSION

To increase the number of historically underrepresented students who are motivated and prepared academically to pursue STEM degrees.

HISTORY

Detroit Area Pre-College Engineering Program (DAPCEP) was established in 1976 as a Michigan non-profit (501c3) organization

IMPACT

11,000 youth served throughout Southeastern Michigan, partnering with 11 colleges and universities, dozens of corporations, and hundreds of volunteers annually.
Explorers: The DAPCEP Explorers curriculum is correlated with national education standards and is designed to develop key school and life readiness skills such as critical thinking, creativity, confidence, communication and collaboration.

Pop-Up Workshops: Pop-Up workshops are designed to peak curiosity and bring awareness to a variety of STEM topics.

DAPCEP In-School (DISC): The In-School program, (DISC) was tailored to work within Detroit Public Schools and focuses on advanced STEM and project-based learning.

Residential & Commuter Summer Programs: Students live and learn on a university campus, reside in dorms, and participate in specially designed advanced STEM courses and laboratories during the day.

Talent Tours & Bridge Program: DAPCEP talent tours introduce youth to available career path in STEM fields.

Multi-year Engagement: Students participate in cohort based programming for multiple semesters.

Pathfinders: Pathfinders discover their passion and career aspirations by participating in a broad variety of learning modules on university and corporate campuses.

All Grade Levels
Community Outreach/ large-scale engagements
## Methodology

<table>
<thead>
<tr>
<th>Segments</th>
<th>Pre-K to 3rd Grade</th>
<th>4th-6th Grade</th>
<th>7th-9th Grade</th>
<th>10th-12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
<td>School Ready</td>
<td>Middle School Ready</td>
<td>High School Ready</td>
<td>College/Career Ready</td>
</tr>
</tbody>
</table>
| **Methods**  | • Early learning (highly motivational)  
• Academic reinforcement  
• Exposure to STEM concepts  
| • STEM group work  
• Hands-on Learning  
• Exposure to university campus  
• Critical mathematics & problem-solving skills  
| • Career exploration through exposure  
• Hands-on learning  
• Refinement of critical algebraic & problem solving skills  
• Group dynamics  
| • Advanced concepts  
• Exposure beyond K-12 systems capacity  
• Scientific reasoning  
• Critical academic reinforcement  
• SAT/ACT preparation  
• Senior transition program  |
DAPCEP’s UNIQUE APPROACH

DAPCEP focuses on the parent, and the student at the same time:

Key Objectives:

- High quality academic courses are offered to all K-12 students.
- Program costs for parents remain low and scholarships and financial assistance is available to low-income parents.
- Partnership with STEM corporations, businesses, and employers help ensure courses reflect current trends and standards.
68% of DAPCEP alumni choose careers in STEM.

97% of DAPCEP alumni report that DAPCEP not only prepared them for academic success in college, but introduced them to, and helped prepare them for, STEM careers.

DAPCEP alumni are employed by leading STEM employers including:

✓ global automotive brands
✓ energy companies
✓ architectural design firms
✓ engineering firms
✓ local satellite offices of global IT companies

DAPCEP
ALUMNI
DAPCEP IMPACT

K-12 Grades
• 89% of students indicate they learn new things in DAPCEP that are not taught in school time
• 69% want to take more classes in STEM
• 75% of students increased their post-test scores (Fall 2020 virtual programs)
• Nearly 100% high school graduation rate (99.4%)

Higher Education
• 87% of DAPCEP high school seniors report applying to institutions of higher learning.
• 49% of DAPCEP students enroll in Michigan colleges and universities

Students Served 2013-2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Students Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>3900</td>
</tr>
<tr>
<td>2014</td>
<td>3329</td>
</tr>
<tr>
<td>2015</td>
<td>4992</td>
</tr>
<tr>
<td>2016</td>
<td>5738</td>
</tr>
<tr>
<td>2017</td>
<td>8700</td>
</tr>
<tr>
<td>2018</td>
<td>11287</td>
</tr>
<tr>
<td>2019</td>
<td>11109</td>
</tr>
<tr>
<td>2020</td>
<td>7041</td>
</tr>
<tr>
<td>2021</td>
<td>13306</td>
</tr>
</tbody>
</table>
DAPCEP: LESSONS LEARNED

**Strengths**
- Programs demonstrate real-world application of topics learned in school
- Courses are hands-on and highly interactive to increase engagement
- Topics match real-world progress in technology and are designed with current industry practitioners

**Opportunities**
- Develop more comprehensive programs to help students bridge the transition from high school to college
- Maintain student engagement over the duration of multi-year program models
- Ensure that courses match current trends in three critical sectors – business, post-secondary education, and K12 education
DAPCEP programs serve students throughout STEM pathways:

**Exposure**

Introduce a large number of students to an array of pathways, careers, and opportunities in STEM. Engage students in hands-on activities and spark curiosity.

**Interest**

Explore pathways to pursuing post-secondary careers and degrees in STEM fields. DAPCEP Incorporates field trips and opportunities to engage with local employers and leading corporations.

**Commitment**

Apply learned principles to specific STEM categories and incorporate career and college competency-building. Students understand their capacity for proficiency growth.

Students demonstrate long-term participation in specific fields while engaging multiple, varied experiences addressing social and emotional supports to succeed after high school graduation.
Michelle L. Reaves, Executive Director
mreaves@dapcep.org
313-831-3050
www.dapcep.org