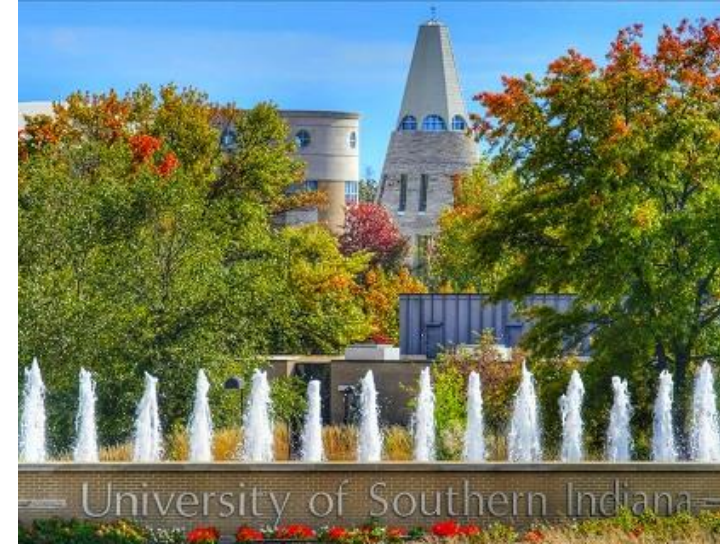


Outline

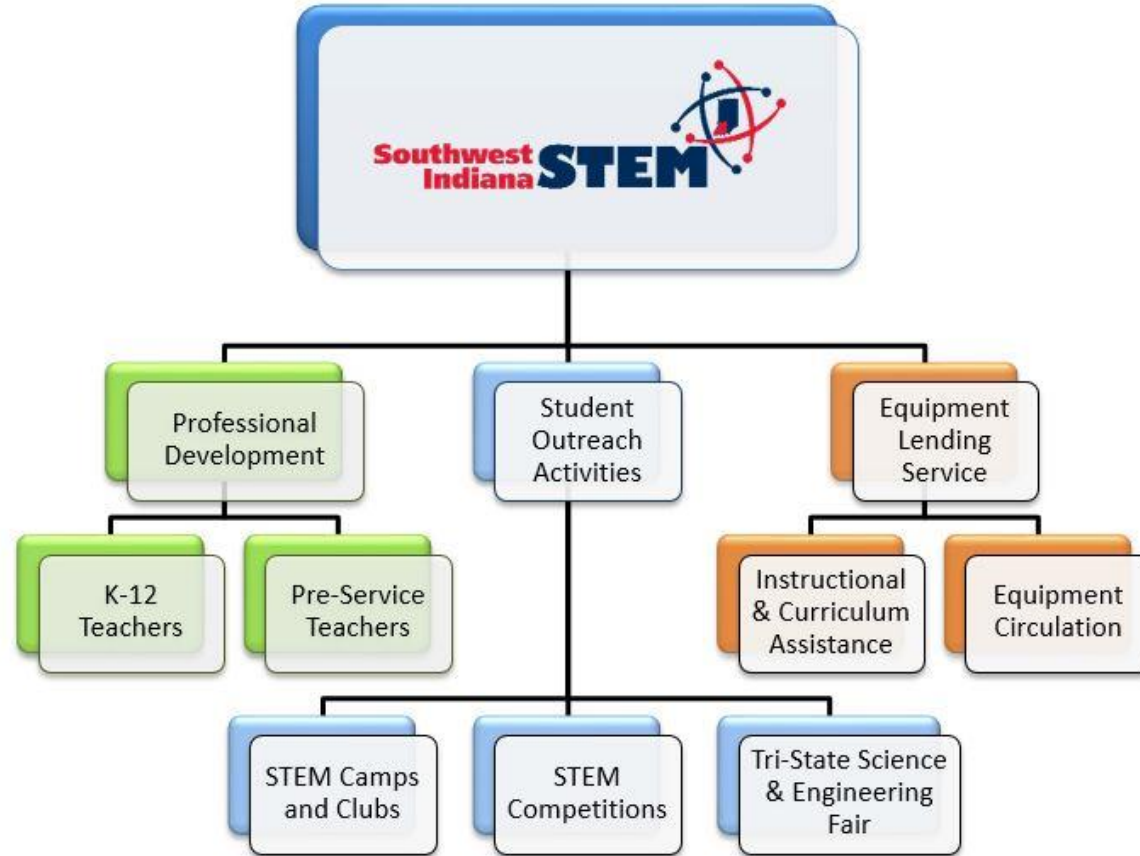
- Introductions
- *SwISTEM* Resource Center Initiative Background
- Significance of *Computer Science* as a *STEM* Field
- *Women in Computer Science*
- *SwISTEM* Address Emerging Trends in the *STEM* Disciplines
- Coding for Kids at USI
- Indiana's Response to the *STEM* Crisis
- Initiative Value to the University
- The Next Level – Long-term Vision for Continuous Impact



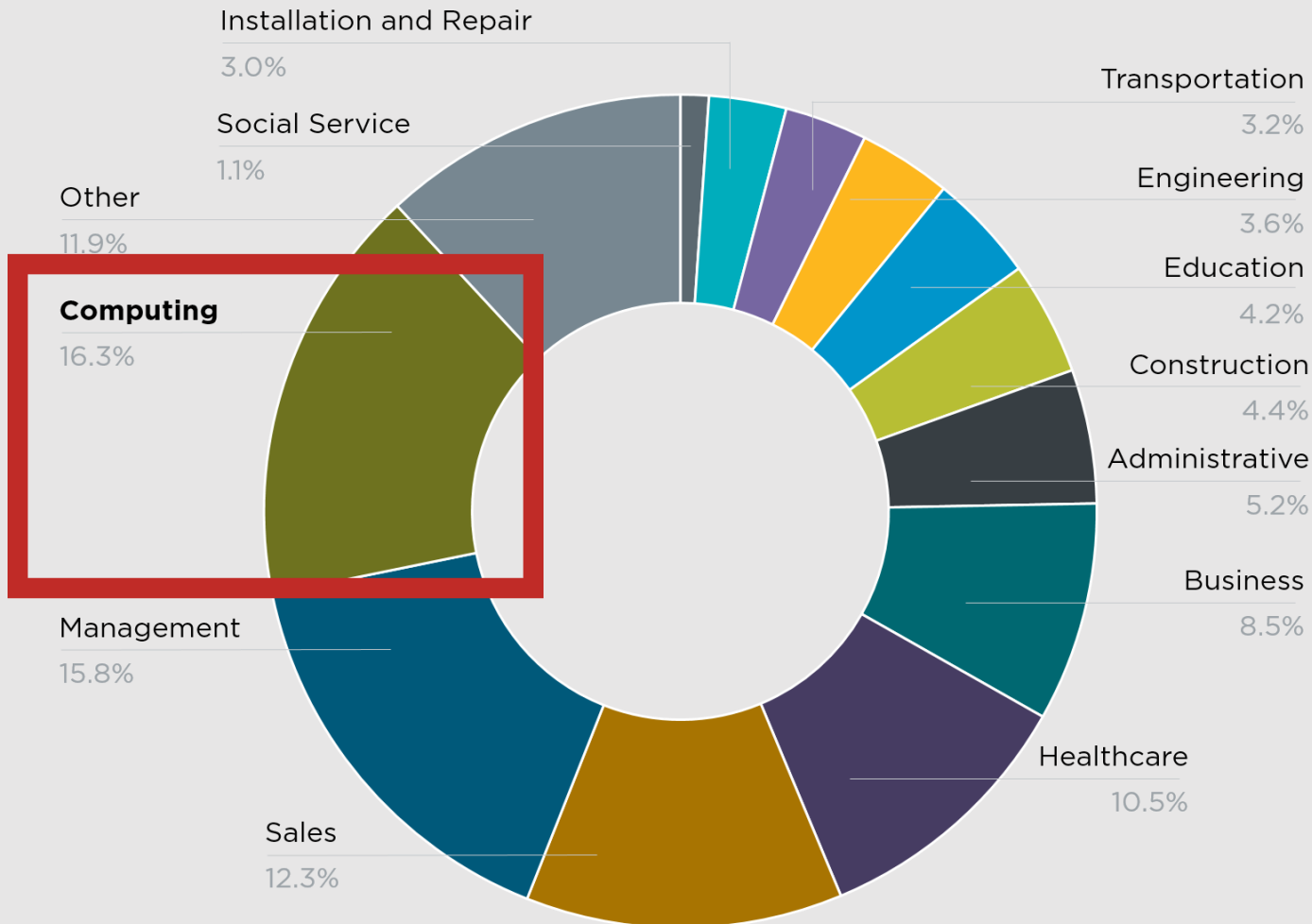
Four Recommendations from Rising Above the Gathering Storm

- 1) Increase America's talent pool by vastly improving K-12 mathematics and science education;**
- 2) Sustain and strengthen the nation's commitment to long-term basic research;
- 3) Develop, recruit, and retain top students, scientists, and engineers from both the U.S. and abroad; and
- 4) Ensure that the United States is the premier place in the world for innovation.

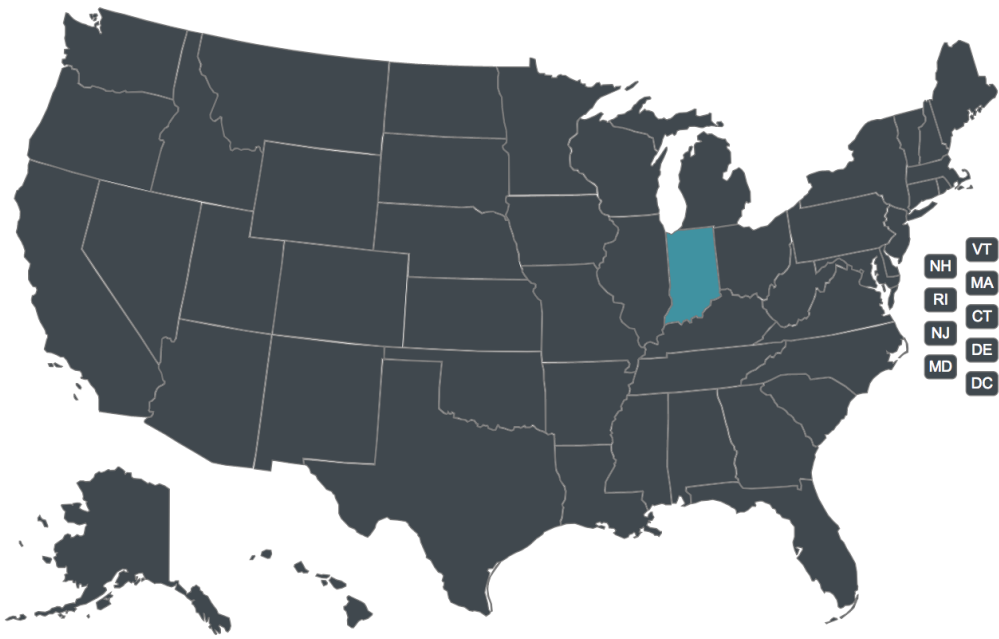
Source: National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. 2007. *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/11463>.



Computing jobs are the #1 source of new wages in the United States



500,000 current openings:
These jobs are in **every** industry and **every** state, and they're projected to grow at twice the rate of all other jobs.



Indiana

4,780

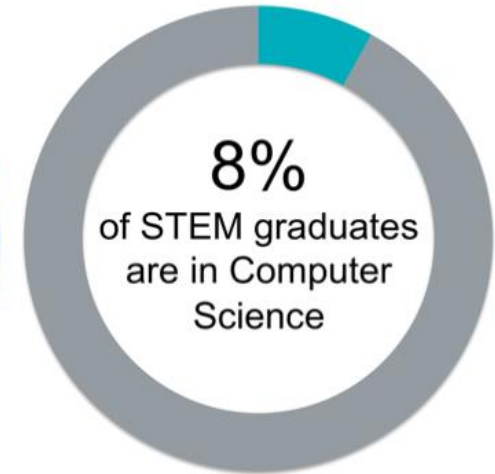
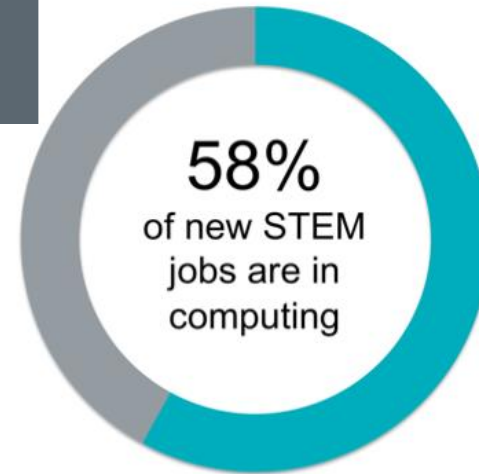
Open computing jobs
(3.4x the state average demand rate)

1,578

Computer science graduates

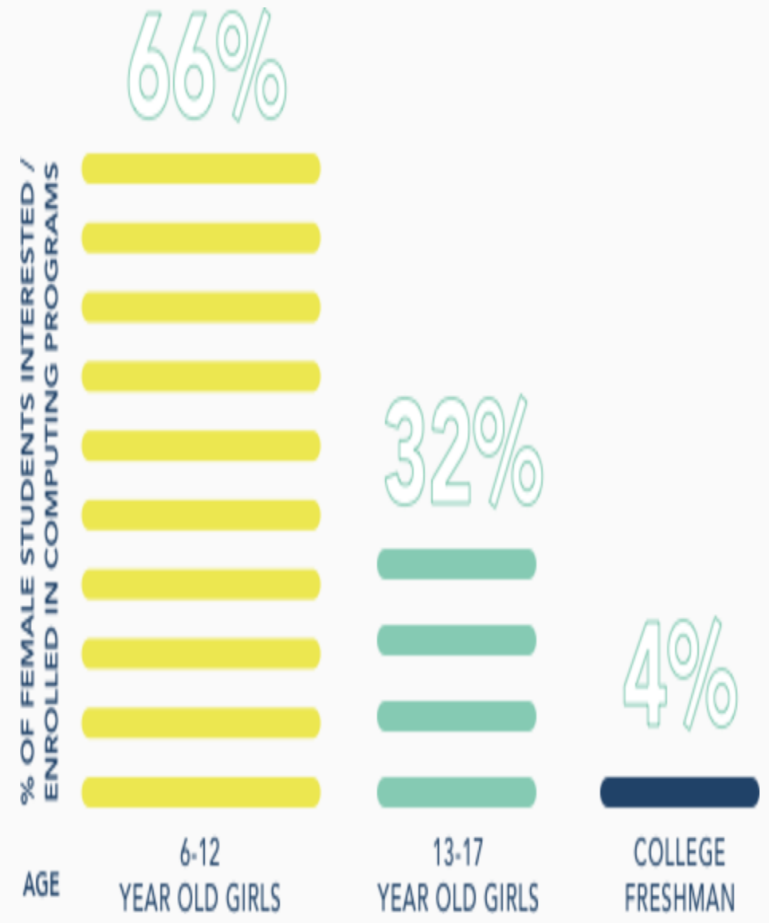
Policy Environment (**rubric**):

- No dedicated state funding for CS PD
- Requires all high schools to offer CS
- No K-12 CS curriculum standards

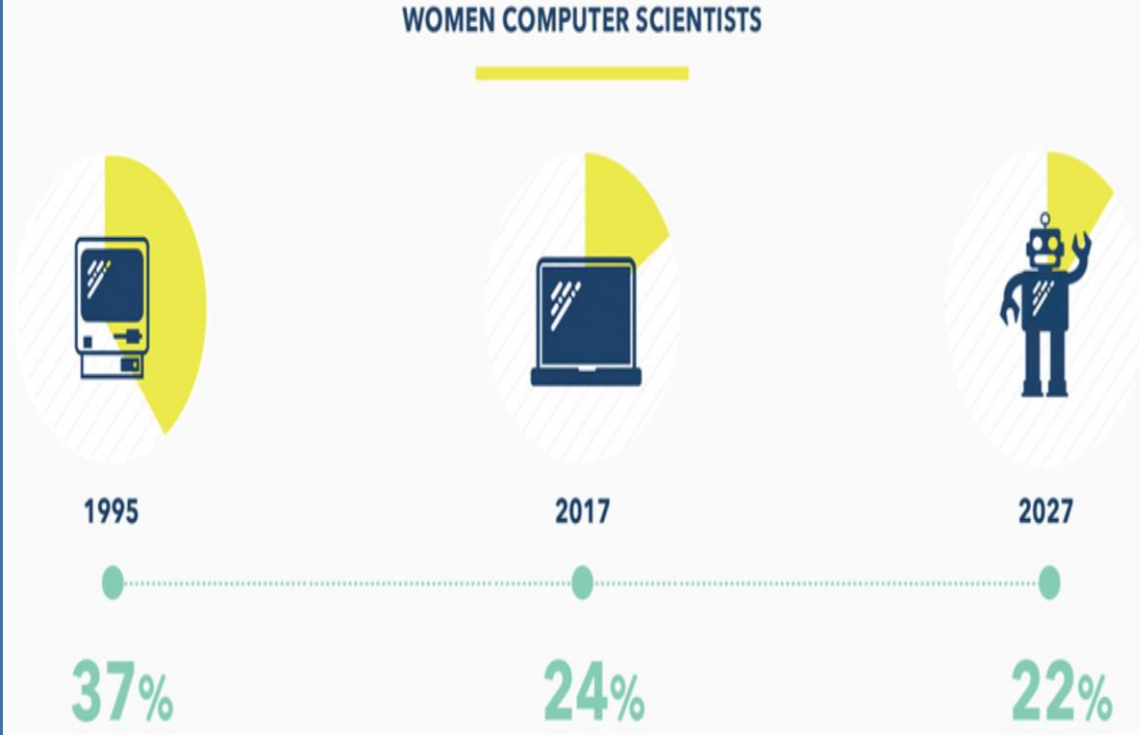


Source: code.org

Tech jobs are among the fastest growing in the country, yet girls are being left behind. While interest in computer science ebbs over time, the biggest drop off happens between the ages of 13-17.

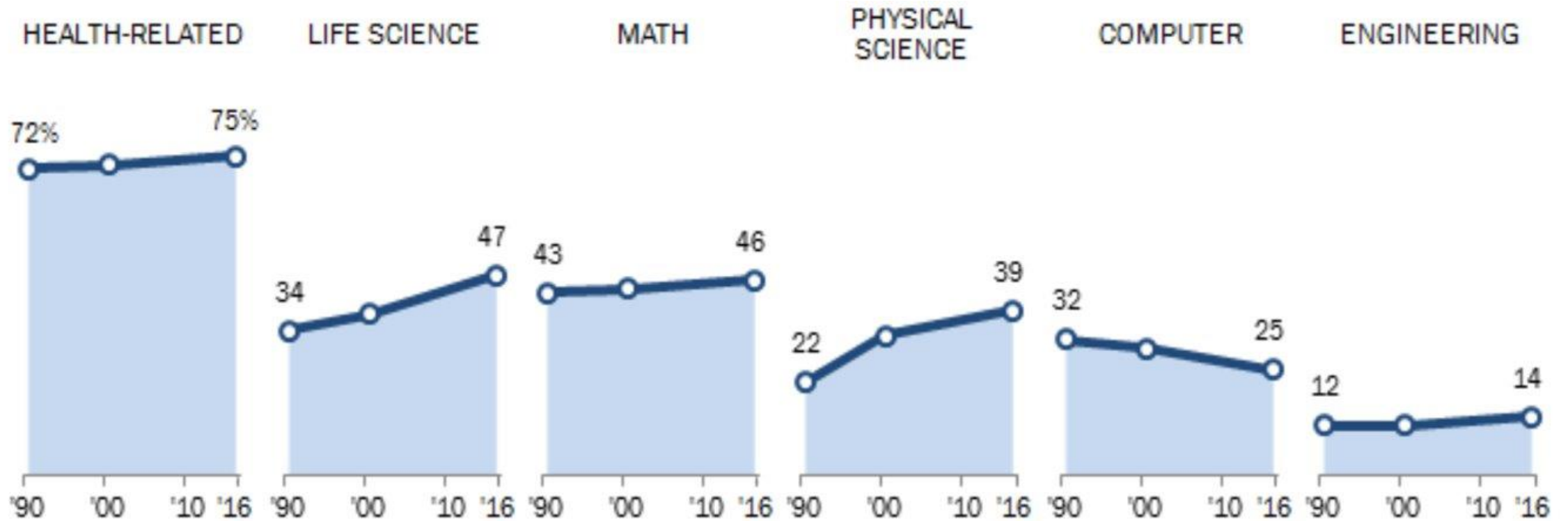


The gender gap in computing is getting worse.



Source: girlswhocode.com

Women's representation in computer jobs has declined since 1990



Note: Based on employed adults ages 25 and older. Engineering includes architects.

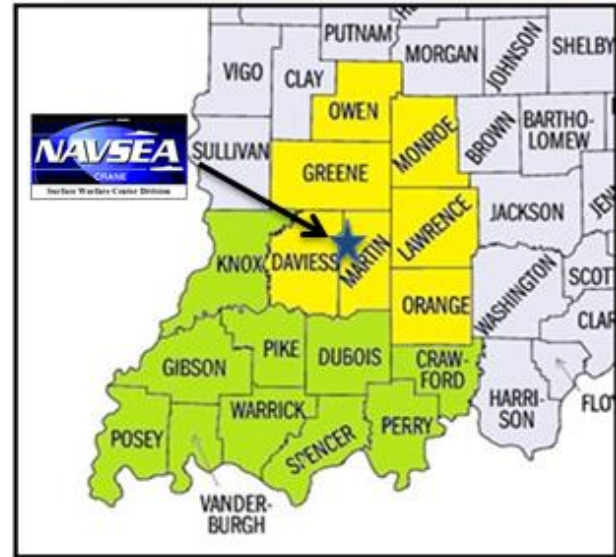
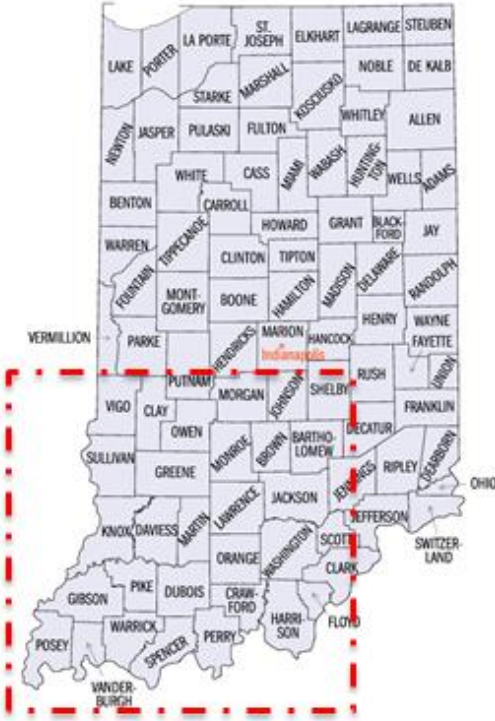
Source: Pew Research Center analysis of 1990 and 2000 decennial censuses and 2014-2016 American Community Survey (IPUMS).

"Women and Men in STEM Often at Odds Over Workplace Equity"

code.com



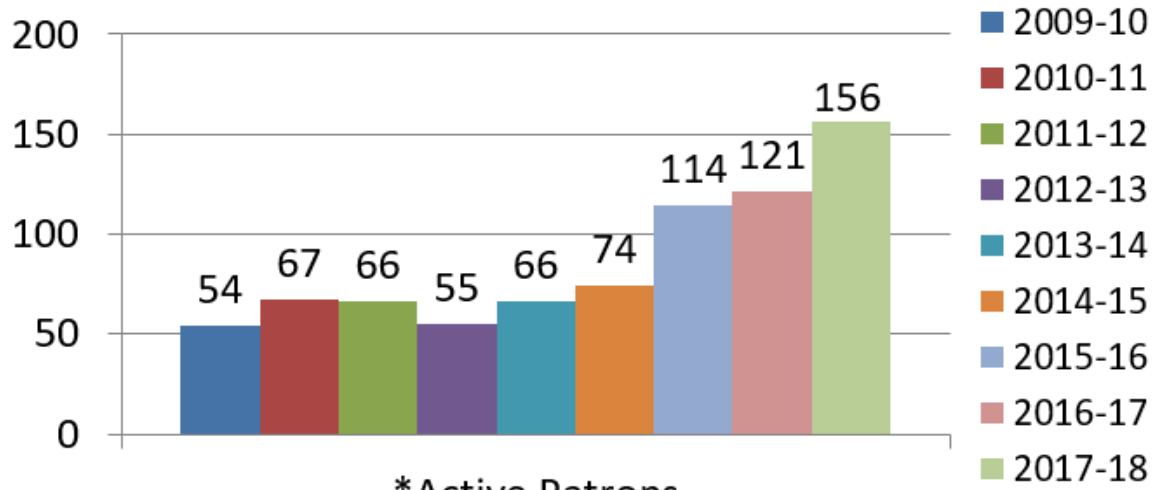
Expansion of SwI STEM Region





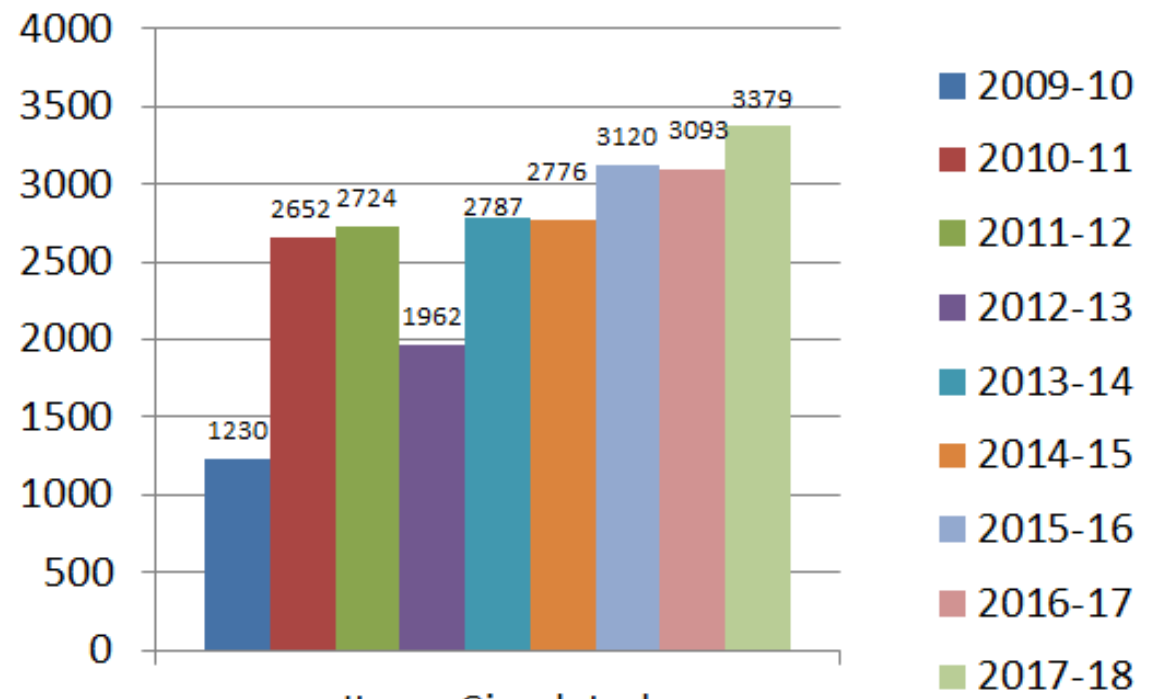
Southwest Indiana STEM

Equipment Lending Service



***Active Patrons**

*patrons reserving equipment one or more times per academic year.



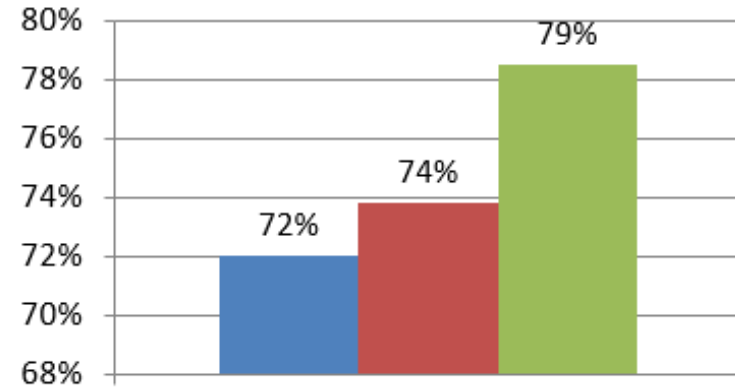
Items Circulated



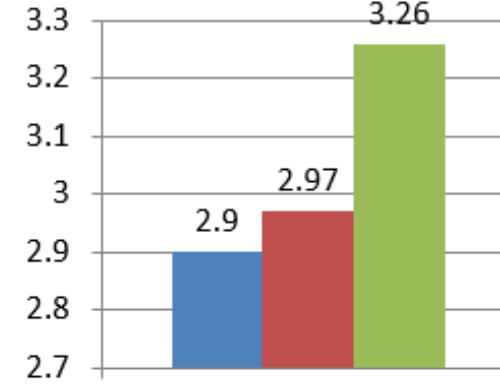
SwISTEM Cohort at USI (2008-2015)



n=129

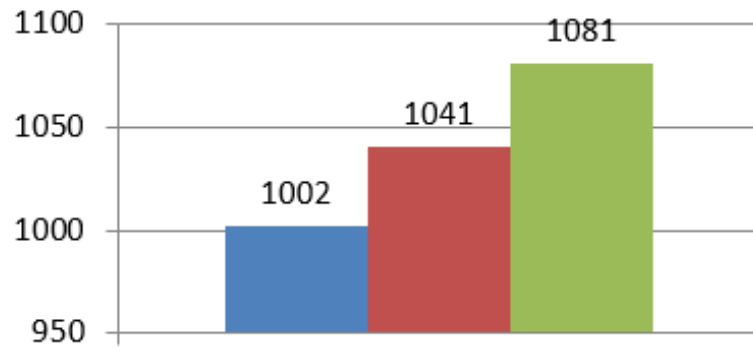


1yr Retention Rate

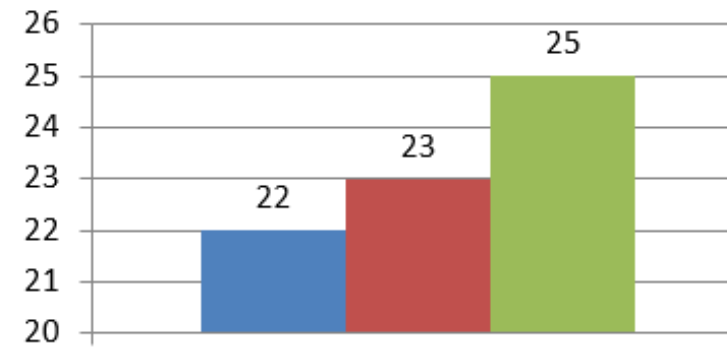


USI Freshman 1st year Cumulative GPA

- New Freshman Cohort
- Pott College Cohort
- SwISTEM Cohort



Average SAT Combined (Math and Verbal)



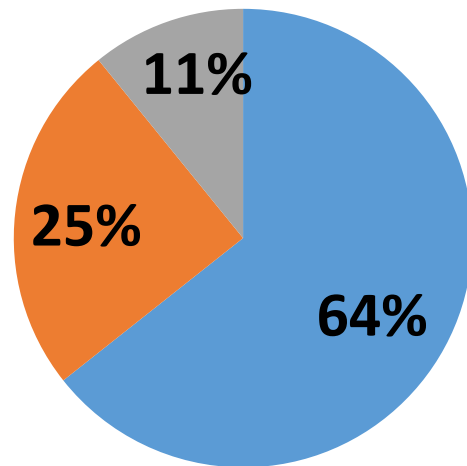
Average ACT

SwISTEM Cohort and STEM

(2008-2015)



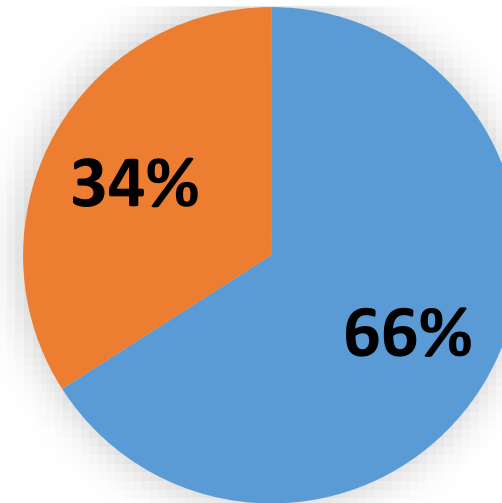
Percentage of SwISTEM Cohort
Matriculating into a STEM Discipline at USI



■ Yes (82) ■ No (32) ■ Undecided (14)

n=129

Percentage of SwISTEM Cohort
Matriculating into a STEM Discipline at
Any Reporting University



■ STEM (339) ■ Non-STEM (175)

n=514

2019-2021 Performance Metrics Recommended by the Indiana Commission for Higher Education

Metric	Proposed Metric Value
Overall Degree Completion Metric - Bachelor	\$10,000
At-Risk Degree Completion Metric – At-Risk	\$10,000
STEM Degree Completion Metric – Bachelor (Non-Research)	\$10,000
On-time Graduation Rate Metric – 4 Year	\$25,000

Indiana's Response (Recent legislation - beginning July 1, 2021)

Computer Science Bill Clears House, Senate

Posted: Mar 09, 2018 7:55 AM CST

Updated: Mar 09, 2018 7:55 AM CST

By Dan McGowan, Senior Writer/Reporter

CONNECT



(Image of the Statehouse)

INDIANAPOLIS - The Indiana General Assembly has approved a bill requiring public schools to include computer science in each school's curriculum beginning in 2021. House Enrolled Act 172 also established a grant program and fund supporting computer science-focused professional development for K-12 teachers.