

LIFT Engineering

**A new program for underrepresented students
in engineering and computer science**

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Harper College Board of Trustees Meeting

February 15, 2023

Motivation

“Women earned half of S & E bachelor’s degrees in 2020.”

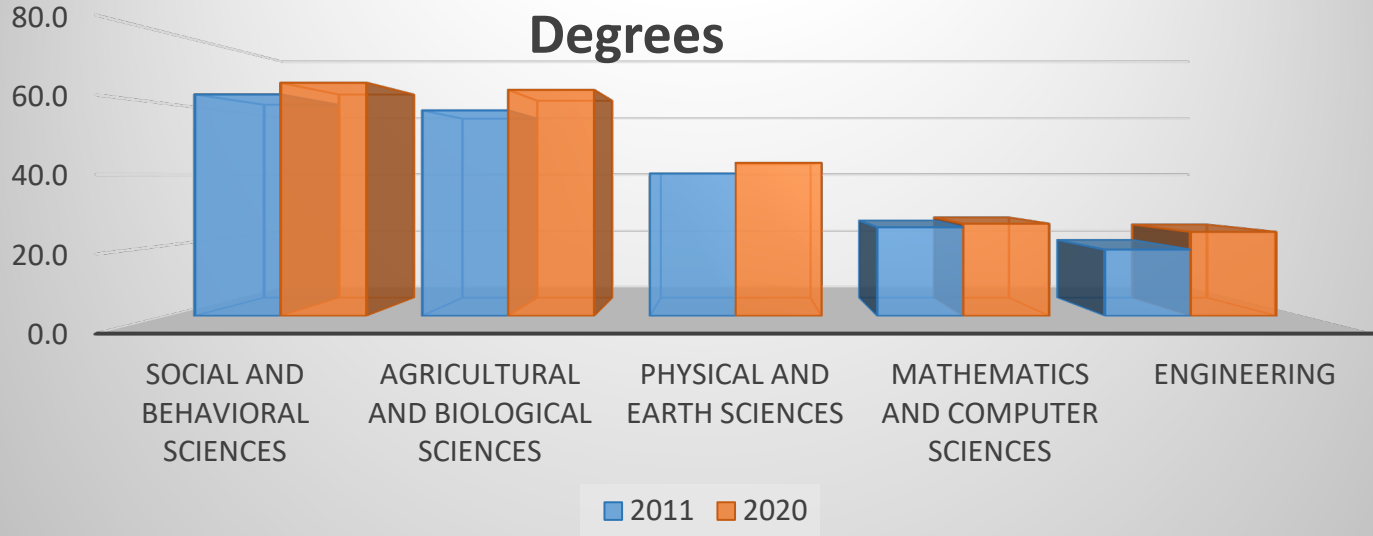
“Among workers with at least one disability, 21% worked in STEM occupations in 2021.”

“The U.S. STEM workforce gradually diversified between 2011 and 2021...”

“Hispanic workers represented 15% of the total STEM workforce in 2021...”

Motivation-DIG DEEPER!

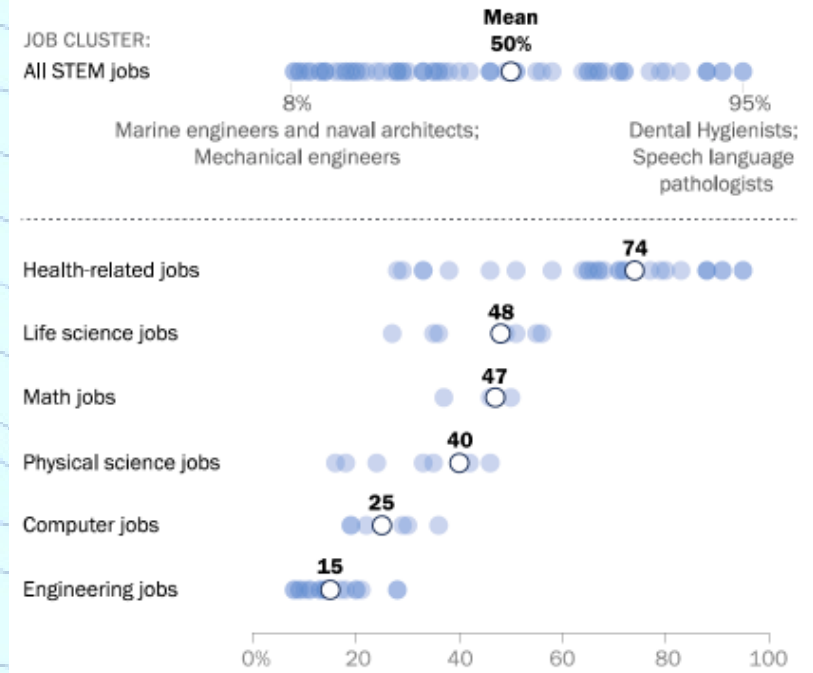
Percentage of Women Earning Bachelor's Degrees



NCSSES Jan. 2023

Representation of women in STEM varies across job clusters

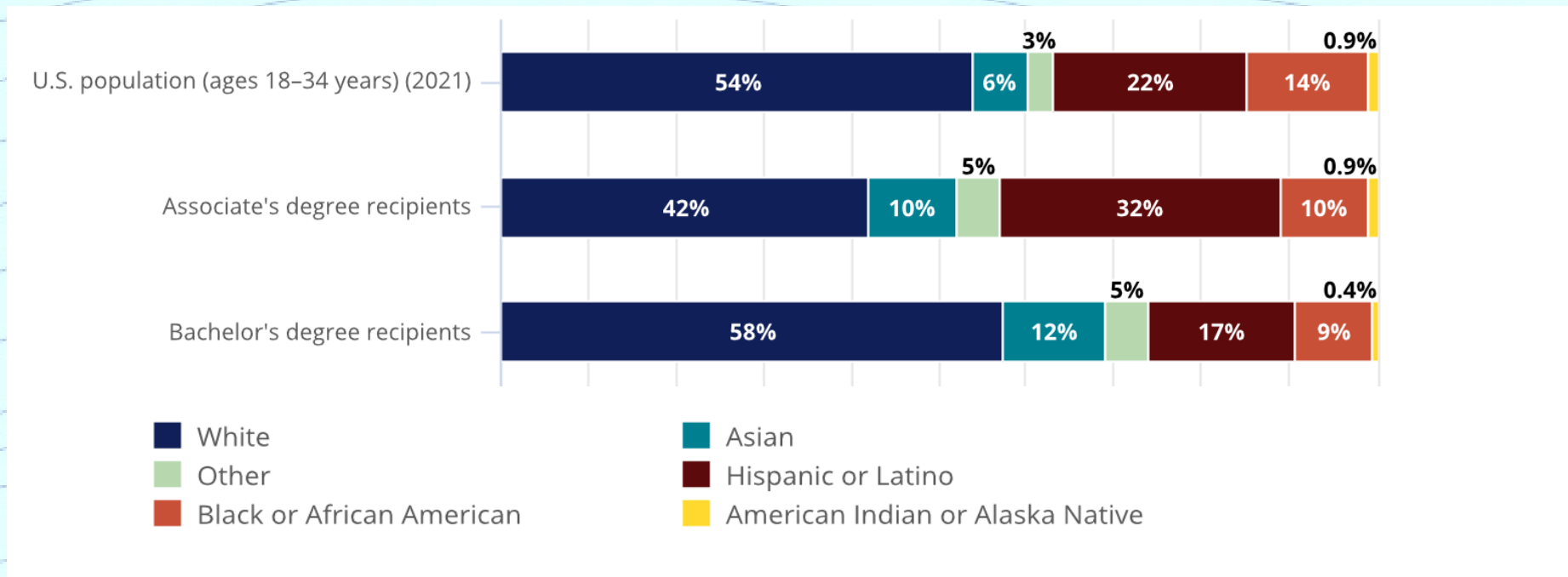
Share of women in each of the following job clusters



Pew Research 2021

	S&E occupations	S&E-related occupations	Middle-skill occupations	STEM workforce (in millions)
Total	25%	37%	38%	34.9
Male	28%	20%	52%	22.6
Female	20%	68%	12%	12.3

Motivation-DIG DEEPER!



NCSES Jan. 2023

...among Hispanics and among American Indians or Alaska Natives...the greatest proportions worked in middle-skill occupations (63% and 52% respectively) and the smallest proportions worked in S&E occupations (14% each).

Motivation-Need for Support

	Business Management (124 credits)	Computer Science (128 credits)	Mechanical Engineering (128 credits)
Math Courses	5 (incl. 4 in accounting and business analysis)	6	6
Science Courses	2	3	4
Majors Courses	22	18	22
Courses with Labs	2 (maybe)	7 minimum	13 minimum (plus senior design)
Total CONTACT hours	126	135+	141+

LIFT Participants

NSF: “women, persons with disabilities and three racial and ethnic groups-blacks, Hispanics, and American Indians or Alaskan Natives”

This differs from their representation in the U.S. population.

I have also invited applications from those who are low-income (as measured by qualifying for free or reduced-cost lunch as a high school senior).

Applicant Requirements

- **Be a member** of one of the underrepresented groups
- **Be college-ready** in all subject areas with a high school GPA of 2.0 or greater
- **Have a passion** to pursue a degree/career in engineering or computer science
- **Complete all application requirements by the deadline**

There are a maximum number of 10-12 seats in the cohort and the best candidates will be selected from the applicant pool.

Summer Success Course

Navigating Harper

- Advising
- One Stop
- Academic Support Center
- Computer labs

and more...

Student Success

- Time management
- Study skills
- Learning online
- Maintaining your health

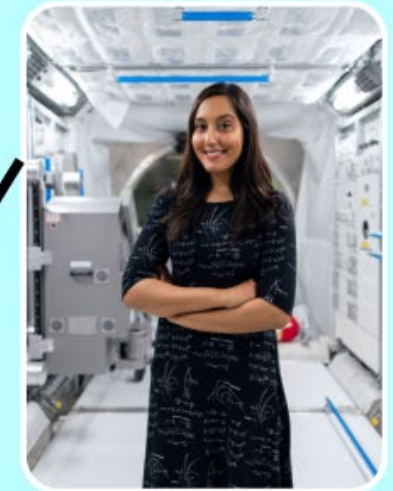
and more...

Mentoring

Multiple mentors provide information, support, and encouragement for different aspects of the participant's journey.



Harper Advisor



Industry Mentor



Faculty Advisor



LIFT Participant



Peer Mentor

Coursework

- Course selections made in consultation with faculty and Harper advisor based on **student progress**.
- All students are expected to take **one summer course** prior to their first fall of enrollment
- Must **maintain full-time status** fall and spring semesters
- Grade of **C or better** needed to maintain program standing
- May **drop or repeat 2 courses**, but only with the faculty advisor's permission

Other Requirements

- Enrollment in a cohorted section of **EGR100**: Intro to Engineering in their first Fall term
- Required attendance at regularly scheduled **cohort meetings**
- Weekly monitored **study hours (5)** to build good study habits
- Participation in **one Harper Club, organization, or team** to foster a sense of belonging and combat “imposter syndrome”

Additional Benefits

- Increased access to Harper advising and assistance in course selection
- Assistance in major and transfer institution selection
- Ability to **participate in all other guaranteed transfer programs** in engineering except Engineering Pathways (UIUC)
- Greater exposure to the engineering industry (hoping for guest speakers, site tours, job shadowing, etc.-this is still in progress)

Thank You!

- **Harper Board of Trustees**
- **Dr. Janosik and the Sabbatical Committee**
- **The Finance Committee**
- **Michelé Smith, Kathleen Canfield, and Julie Sabella**
- **Dean Kimberley Polly and Katie Nowik**
- **Keith Goode, Katye Speer, and Heidi Healy**
- **Departments of Engineering and Physical Sciences**

EXPLORE ENGINEERING

AT HARPER COLLEGE

Saturday, February 25 9:30am-12:30pm

Wojcik Conference Amphitheatre and Dining Room

- Featured speaker: Mustafa Hashim, Engineering Pathways graduate and current adjunct faculty member
- Current Student and Alumni Panel Discussion
- Student Club Presentations
- Representatives from several popular engineering transfer institutions
- Alumni lunch at 12:30pm following the program