

Connecting Efforts to Support Minorities in Engineering Education Workshop

National Academy of Engineering

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Programs that Address Transitions from Community College to Four-Year Programs

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Community College Students Represent the US

Community College Demographics

- Women: 57%
- Hispanic: 27%
- Black: 13%
- Native American: 1%
- Non-US citizens: 9%
- Veterans: 5%
- Students with Disabilities: 20%

US Demographics

- Women: 51%
- Hispanic: 18%
- Black: 13%
- Native American: 1%
- Non-US citizens: 8%
- Veterans: 7%
- People with Disabilities: 26%

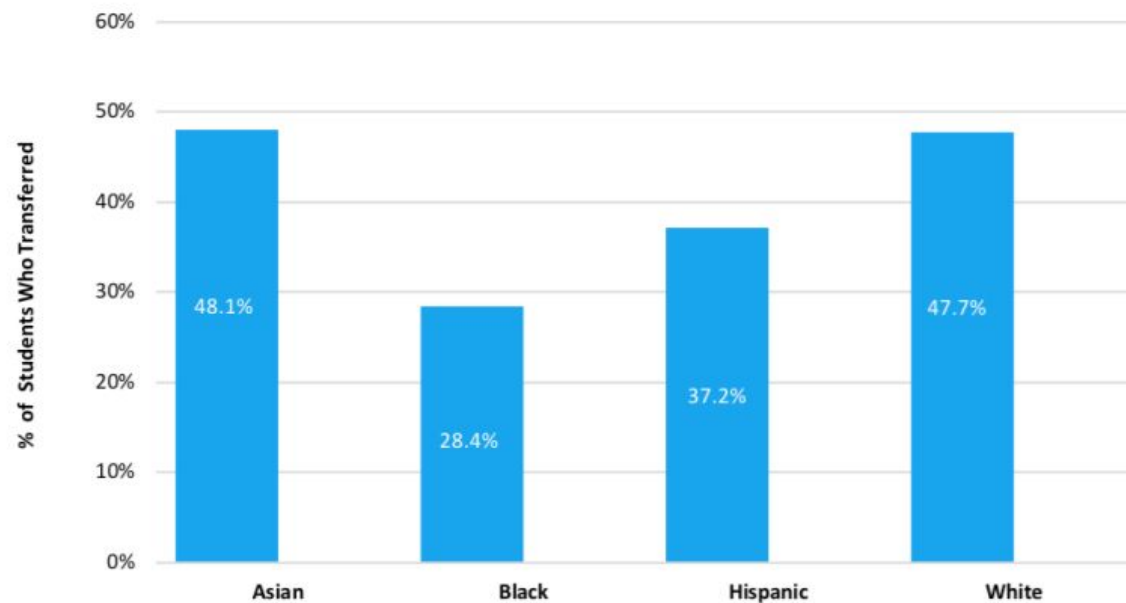


Underrepresented Minorities Earn a Higher Percentage of Engineering Degrees in Community Colleges Compared to Four-Year Institutions

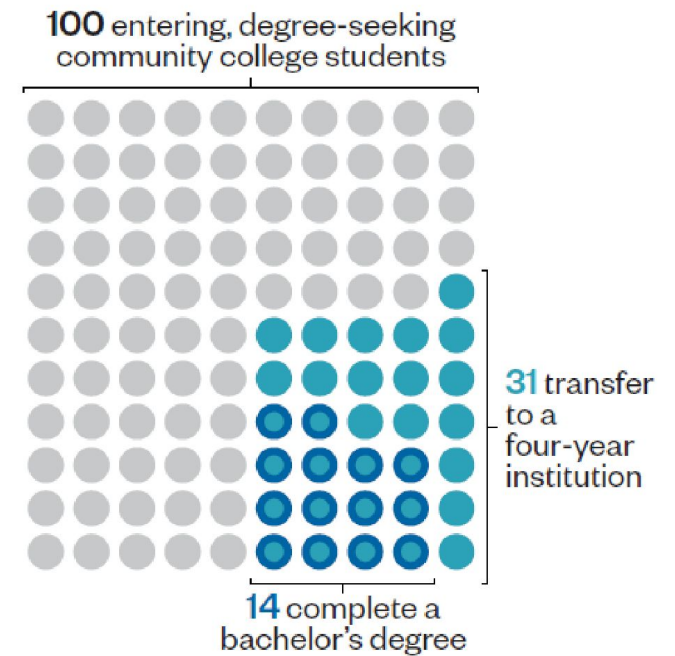
Field of study – Associate’s Degrees Conferred	Total	White	Black	Hispanic	Asian/ Pacific Islander	AI/AN	Two or more races
Engineering	6,408	3,323	476	1,304	651	35	191
	100%	52%	14%	20%	10%	1%	3%
Field of study – Bachelor’s Degrees Conferred	Total	White	Black	Hispanic	Asian/ Pacific Islander	AI/AN	Two or more races
Engineering	121,956	72,484	4,836	12,777	14,080	360	4,138
	100%	59%	4%	10%	12%	0%	3%

Source: IPEDS Undergraduate Degree Fields
Compiled by Lukszo, 2020

Transfer & Four-Year Graduation Rates are Generally Low, and even Lower for Underrepresented Minorities

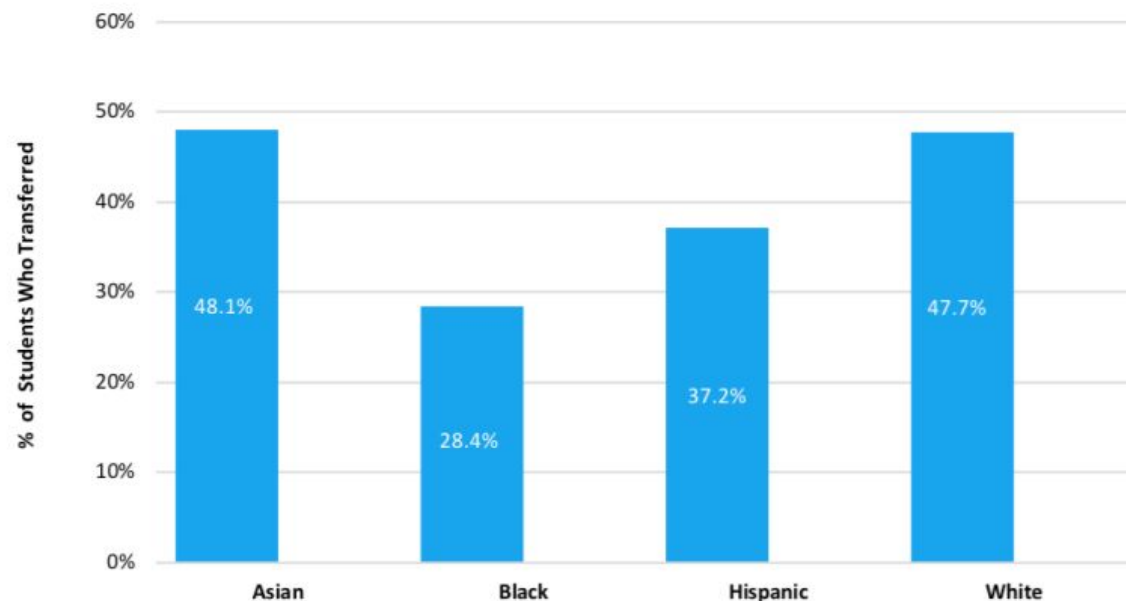


Source: National Student Clearinghouse Research Center
Compiled by Lukszo, 2020

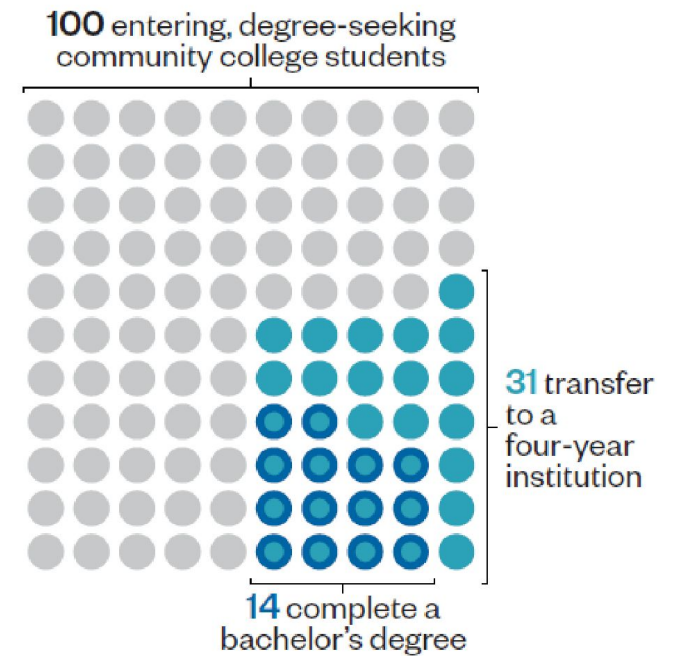


Source: Community College Research Center, 2022

Transfer & Four-Year Graduation Rates are Generally Low, and even Lower for Underrepresented Minorities



Source: National Student Clearinghouse Research Center
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Source: Community College Research Center, 2022

Transfer rates by race/ethnicity are generally not tracked in engineering

Exemplary Programs that Address Transitions



Holistic and Programmatic Approach to Transfer (HPAT) Model

- Continuous engagement with four-year partners
- Summer bridge program to address mathematics and other STEM competencies
- Curriculum designed to be equally as demanding as four-year courses
- Financial assistance
- Mentoring from point of entry and onwards
- 95% transfer rate within 2-3 years of entry

Source: Espiritu et al., 2021

Exemplary Programs that Address Transitions



Texas A&M Chevron Engineering Academies

- Students at TX partner community colleges are co-enrolled from point of entry with Texas A&M
- Community college faculty teach math, science, and core courses
- Texas A&M faculty teach engineering courses
- Students must be calculus-ready at point of entry



Exemplary Programs that Address Transitions



The A. James Clark School of Engineering, University of Maryland

- Full-time engineering transfer advisor
- Engineering ambassadors to visit community colleges, along with faculty/staff
- Annual Maryland Engineering Transfer Alliance (META) conference
- Clark Opportunity Transfer Scholars Program

Thank You!

