



Department of Electrical Engineering and Computer Science—Howard University



Overview

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Professor and Chair

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**NSF Workshop "Crisis in Power Engineering Education: A National
Security Concern"**

Oct. 21-22, 2022



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Major Challenges

The EECS department has experienced a reduction in enrollment in bachelor's degrees in Electrical Engineering (EE) program over the last few years. Several factors contribute to this decline well over the national percentage,

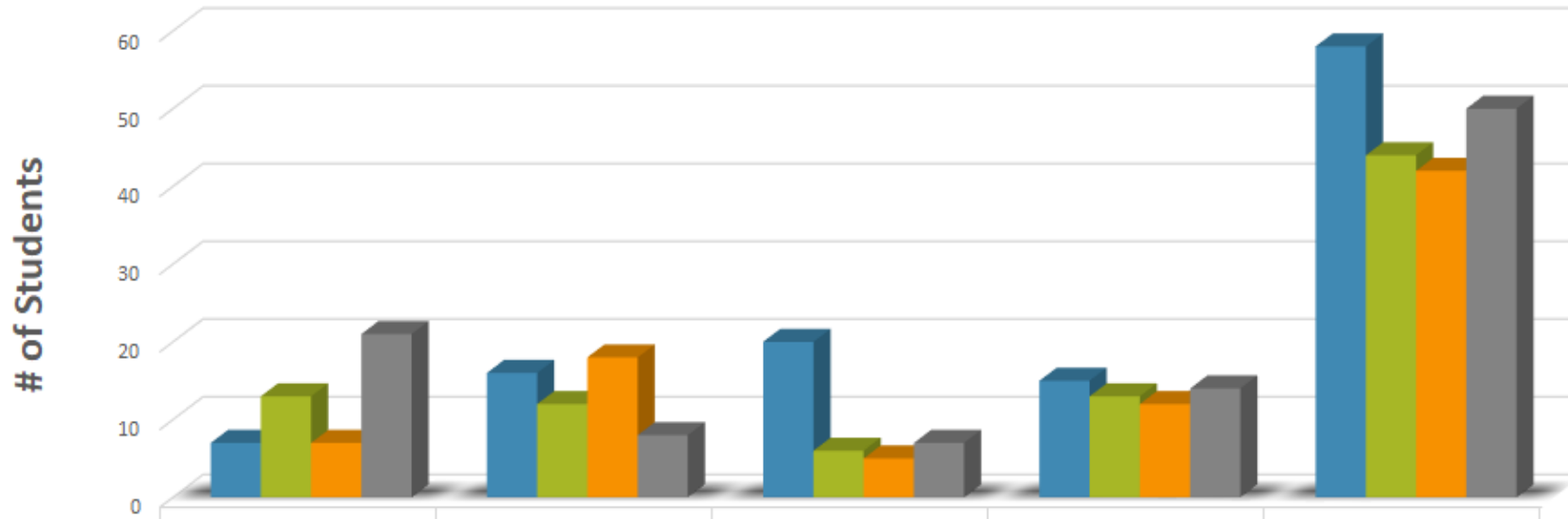
- **The overall national crisis**
- **The competition for new students with the Computer Science (CS) Program.**
- **We have seen an increase in transfer students form EE to CS program. The university started new program in CS at Howard West on Google campus two years ago.**
- **Percentage of bachelor's degree in electrical engineering earned by black or African-American is decreasing over the past decade by approximately 2%.**

Thus, retention and graduation are other challenges in this program.

Enrollment—Electrical Engineering Program

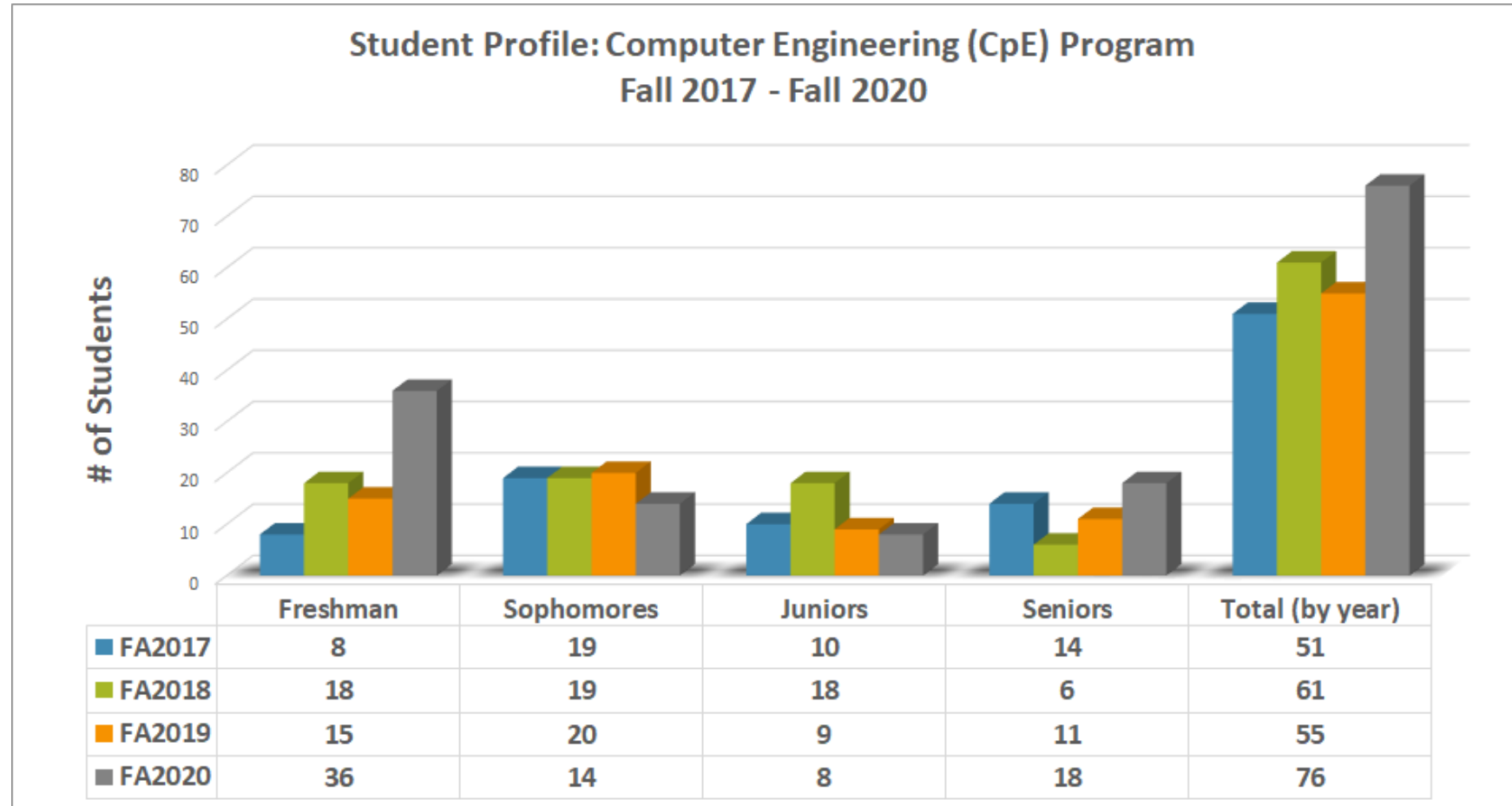


Student Profile: Electrical Engineering (EE) Program
Fall 2017 - Fall 2020

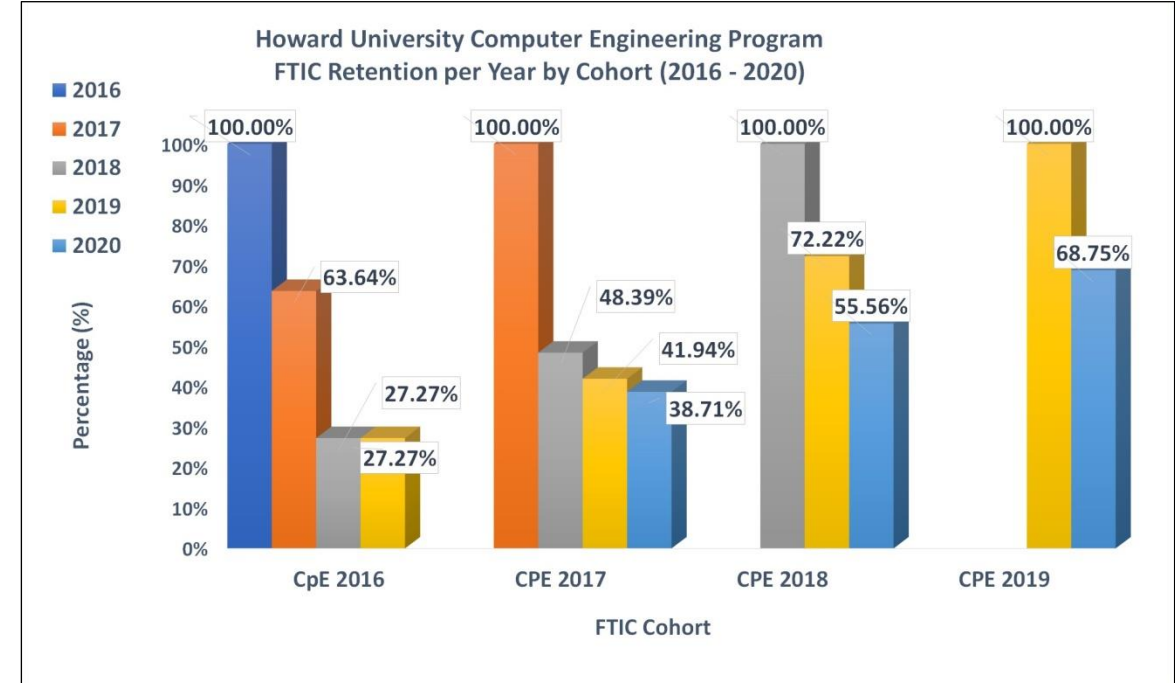
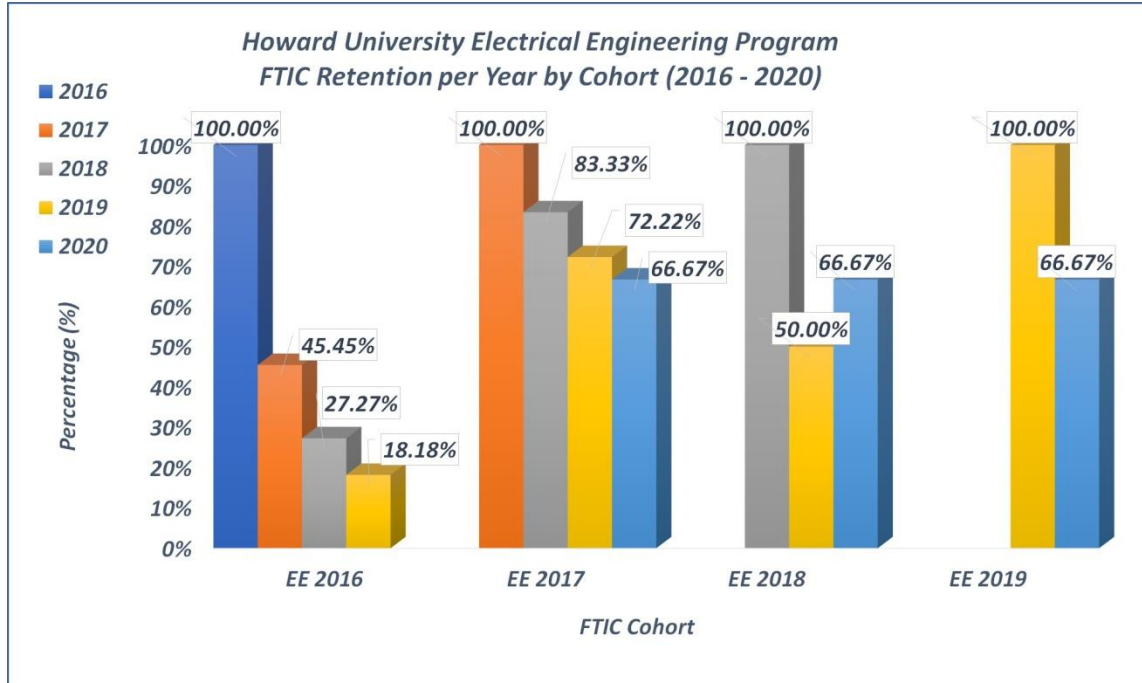


	Freshman	Sophomores	Juniors	Seniors	Total (by year)
FA2017	7	16	20	15	58
FA2018	13	12	6	13	44
FA2019	7	18	5	12	42
FA2020	21	8	7	14	50

Enrollment—Computer Engineering Program



Importance (Retention)



Improve Retention:

- Greatest attrition occurs at Freshman - Sophomore
- Freshman – Sophomore mitigation shifts the problem to later years

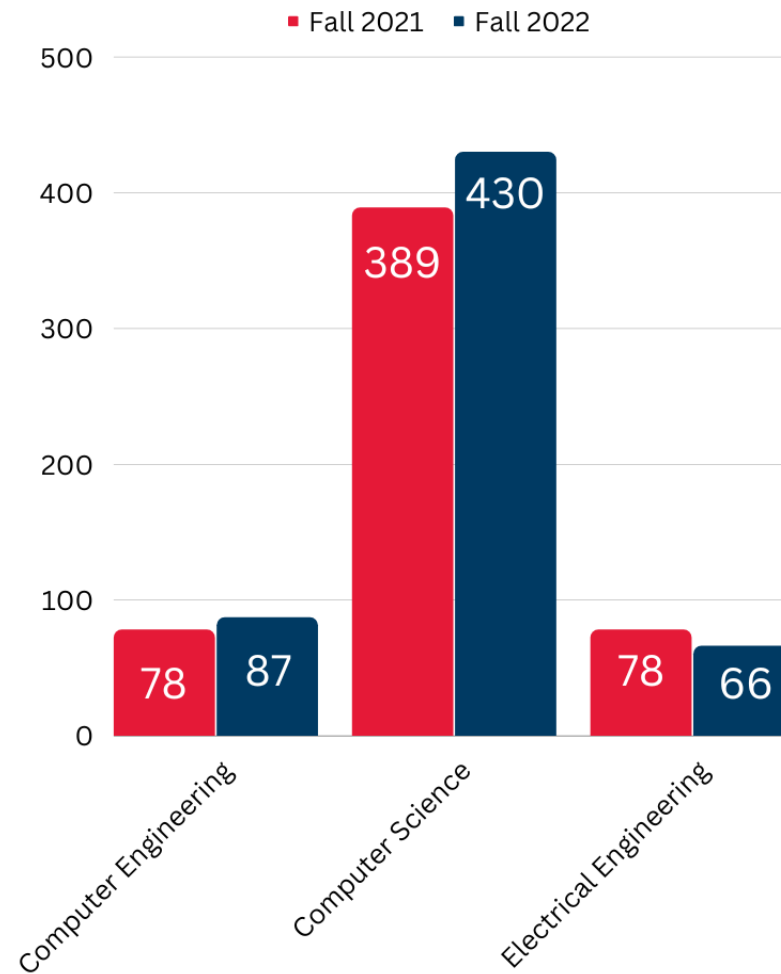
Sustained Intervention:

- Intervention during all years is required
- Hands-on project based courses improve:
 - Enthusiasm
 - Motivation (Engineering Identity)
 - Decreases attrition across all years

Student Enrollment—Fall 2021-Fall 2022



Fall 2021 - Fall 2022 Student Enrollment





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Thank you!

