First Year Summer Experience (FYSE) Program 2019
Overview of FYSE Program

- Three-week summer program hosted at UMD through WIE
- Focused on development and strengthening of math-intensive engineering problem-solving skills
- Designed for women students not admitted into the Clark School of Engineering
Purpose of the 2019 FYSE Program:

- Facilitate transfer into engineering
- Strengthen academic preparation
- Empower women from all minoritized backgrounds
- Provide support and resources
Changes to FYSE

- Originally designed to serve both:
  - first-year engineering and non-engineering admits
  - men and women
- Now focused on:
  - Women students interested in studying engineering, but not admitted
  - Strengthening pathways into and success in engineering
Participant Overview

- Twenty-four students admitted to participate -> Twenty-one attended
- All identified as women
- All applied to major in engineering
- All admitted into Division of Letters and Sciences at UMD
Participant Overview

- African American/Black: 22.7%
- Hispanic/Latinx: 27.3%
- Asian American: 13.6%
- White: 13.6%
- Undisclosed: 22.7%
Structure of FYSE

**Academic**
- Daily full-day class sessions
- Curriculum developed and implemented by engineering faculty and instructors
- Emphasis on pre-calc and application of engineering problem-solving
- Supplemental computer application course on MATLAB
- Final project - truss building competition

**Extra-Curricular & Community-Building**
- Living together in Residence House
- Group challenge course
- Seminar speakers
  - Deans of Clark School of Engineering
  - Dr. Bowden on “Learning from Failure”*
  - Advisor from L&S*
  - Engineering transfer coordinator*
- Field trips
- Lab tours
Field Trip Highlights

- Washington, DC
- Glenn L. Martin Wind Tunnel
- NearSpace High Altitude Balloon Launch
- Fire Protection Engineering Lab
- Hydrodynamics Lab
- Space Systems Laboratory
Program Evaluation

- At conclusion of program, all 21 participants opted to complete anonymous survey.
- Participants asked to rate value of program components and activities, evaluate classroom, instruction, and extra-curriculars, and provide feedback for staff, etc.
Program Evaluation: Value of activities

On a five-point Likert scale, participants rated most activities with a score of 4 or higher.
“I feel much more confident in my decision to go into engineering after not receiving admittance to the engineering school. I have also made many valuable contacts.”

“It greatly exceeded my expectations. The teachers, students, and RTAs were all very friendly and helpful. I learned a lot about being a transfer student, the engineering school, and engineering in general. I feel more confident about my current situation and pursuing engineering.”

“It’s really helpful with refreshing what you’ve learned in math and helps strengthen your skills. It also allows you to have connections and friends before the school year starts.”

“I participated in FYSE because I found that it would be a valuable program to jumpstart my academic pursuits in college and help with transitioning into my intended major.”
“It allowed me to meet many other women who share the same interests.”

“[FYSE’s greatest strength is] its faith in us as future engineers. What pushed us the most is their desire to see us succeed and to help us succeed.”

“It exceeded my expectations because it educated me more about the actual applications of engineering I had first thought and also showed me it’s ok to make mistakes.”

“The greatest strength of the program is the community it brings together and the resources it provides.”

“Applying and completing this program is one of the best decisions I have ever made. Thank you so much for allowing me to have this opportunity.”
Next Steps

- All FYSE participants tracked longitudinally on the following:
  - Original major
  - Current major
  - Transition into engineering
  - Semester-to-semester retention
  - Graduation rates
  - Engineering degree attainment
Thank you to the Maryland Space Grant Consortium for generous funding to support FYSE 2019!
For questions or more information, please feel free to contact:

Elizabeth R. Kurban (Liz)  
[ekurban@umd.edu](mailto:ekurban@umd.edu)
Asst. Director of Retention, Women in Engineering  
Program Director, First Year Summer Experience  
Clark School of Engineering  
University of Maryland College Park