

2018 CoNECD - The Collaborative Network for Engineering and Computing

Diversity Conference: Crystal City, Virginia Apr 29

Graduates Linked with Undergraduates in Engineering (GLUE)

Mrs. Ana M Dison, Women in Engineering Program-Cockrell School of Engineering-UT Austin

Ana Dison is the Assistant Director in the Women in Engineering Program and coordinates all current student programming including the First Year Initiative, Kinsolving Learning Community, Leadership Seminar, Graduates Linked with Undergraduates in Engineering (GLUE) research program, the Peer Assistance Leader (PAL) program and the Women In the Second year of Engineering (WISE) program. She typically teaches 3-4 classes a semester and is currently teaching in the newly created Ramshorn Scholars Program, the WEP Leadership Seminar and the GLUE undergraduate research seminar. Ana supervises full and part-time staff and oversees the business and personnel operations of the office. She has been with the WEP Office since 2006.



Established Spring, 2003



Overview

- History
- Description & Purpose
- Format & Structure
- Programmatic Timeline
- Course Content & Deliverables
- Managing Expectations
- Student Learning Outcomes
- Testimonials & Data
- Program Challenges
- Questions



History

- Established in spring, 2003
- One cohort/year 2003-2013
- Two cohorts/year 2013-2018
- 19 cohorts total



Description

- 2nd & 3rd year students
- safe, low stress environment
- first research experience
- introductory experience
- graduate student volunteers as mentors
- encourage underrepresented students to consider engineering graduate study



Description

- use engineering skills to address real-world problems
- develop hypotheses, collect and interpret data
- communicate results to an interdisciplinary audience
- research opportunities in academia and industry from variety of perspectives



Purpose

- retain 2nd & 3rd year female students
- hands-on experience
- encourage underrepresented students to consider engineering graduate study
- provide grad mentors with teaching & mentoring opportunities



Format & Structure

- Offered fall & spring semesters
- Limited enrollment to about 24 pairs per semester
- Enrollment in weekly credit based seminar

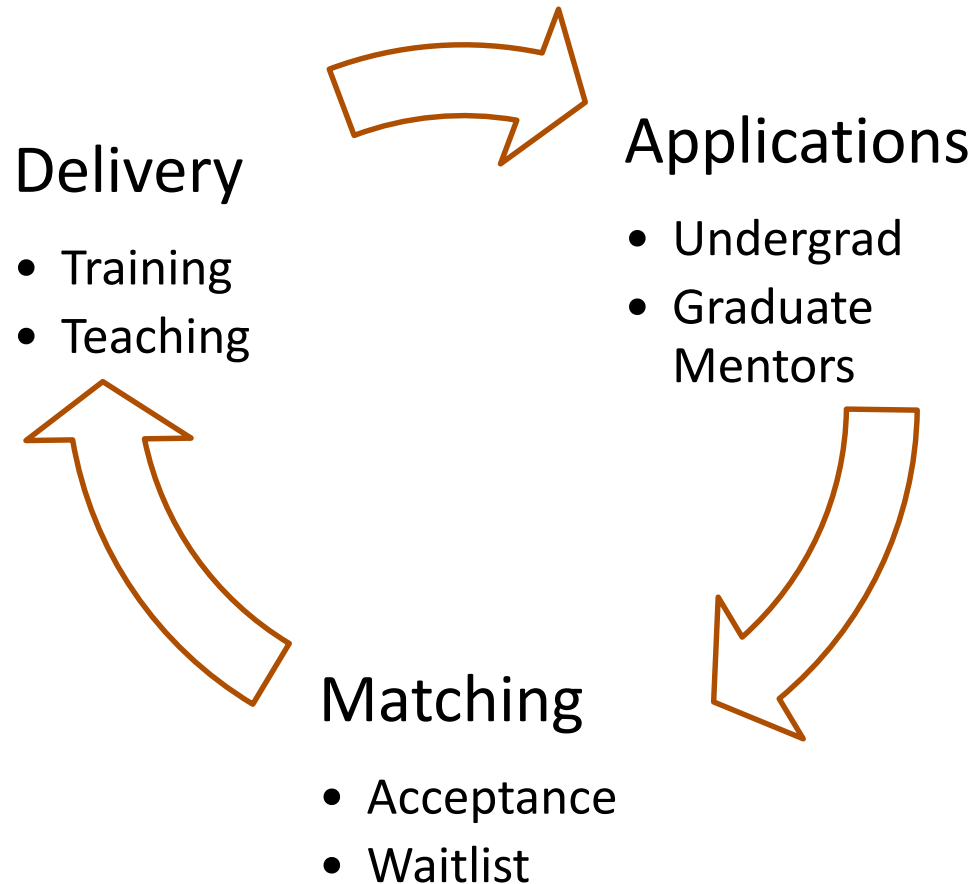


Format & Structure

- Undergraduate students are expected to work on **AVERAGE** 5 hours per week with their graduate student
- Weekly seminar (1.5 hours per week)
- Individual research hours are TBA



Programmatic Timeline





Programmatic Timeline - Applications

- Applications collected concurrently
- Grad projects info needed for matching
- Online process for both
- Secondary info session for undergrads
- Might need several rounds of grad mentor recruitment



Programmatic Timeline - Matching

- More of an art
- Distribution of majors
- Mentors dictate majors
- Personality matching
- Location (off campus research park)
- Returning mentors





Programmatic Timeline - Waitlist

- Auto waitlist
- Personnel changes – mentor & UG's
- Internships
- Class schedule changes
- Other research opportunities



Programmatic Timeline - Training

- First Meeting Worksheet
- Background reading
- Mentor training 1st week of semester



Programmatic Timeline - Teaching

Canvas class management system

- Weekly attendance required
- Group Presentation – What is an REU?
- Project Presentations
 - Beginning of the semester – introduction of project
 - End of semester – final presentation
- Research Poster
- Faculty Interview
- Reflective Questions
- Final Paper



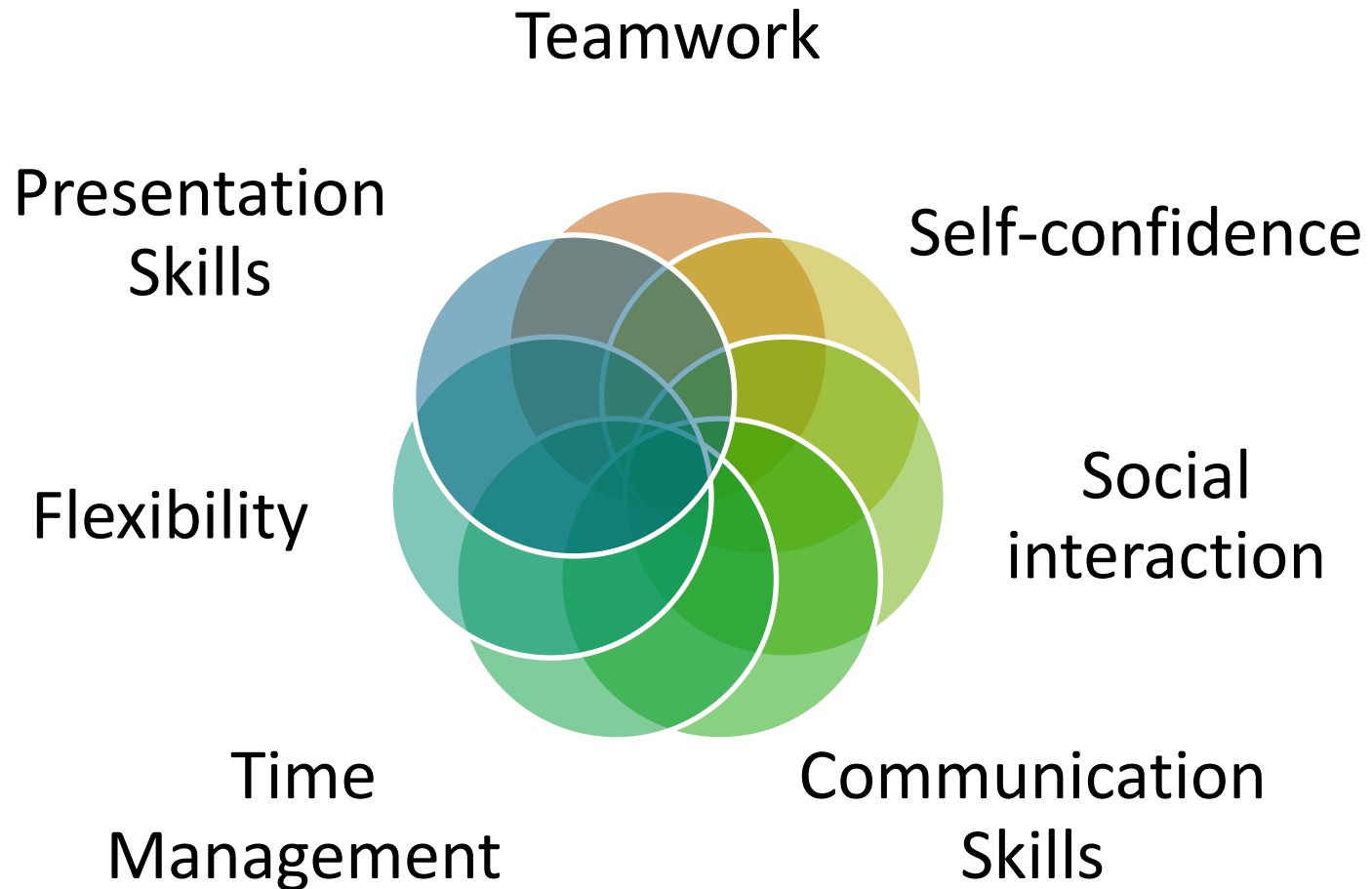
Managing Expectations

- Introductory program – not curing cancer
- Many different forms/types/settings for research work
- Important to be flexible & open to the experience





Student Learning Outcomes



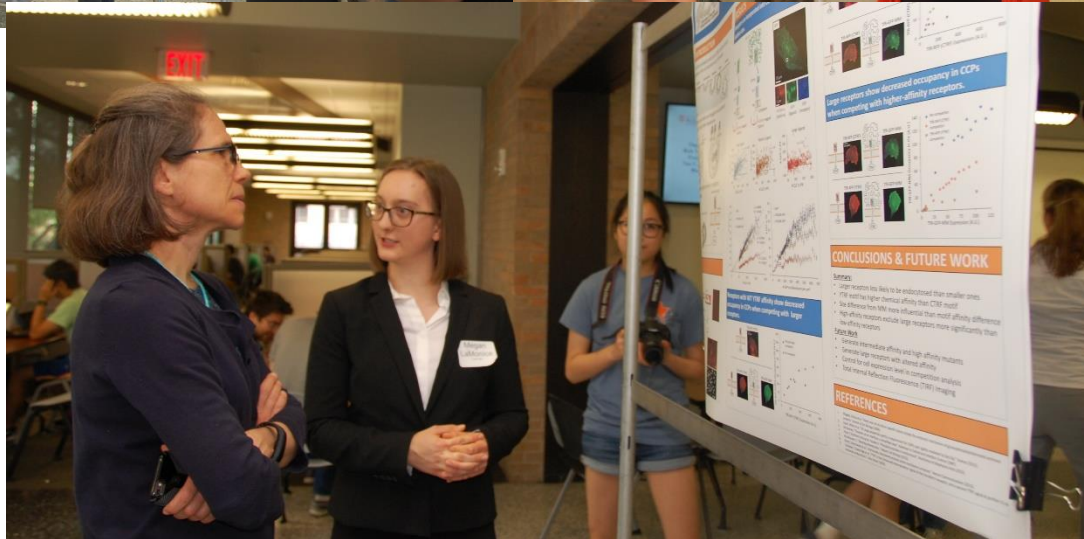
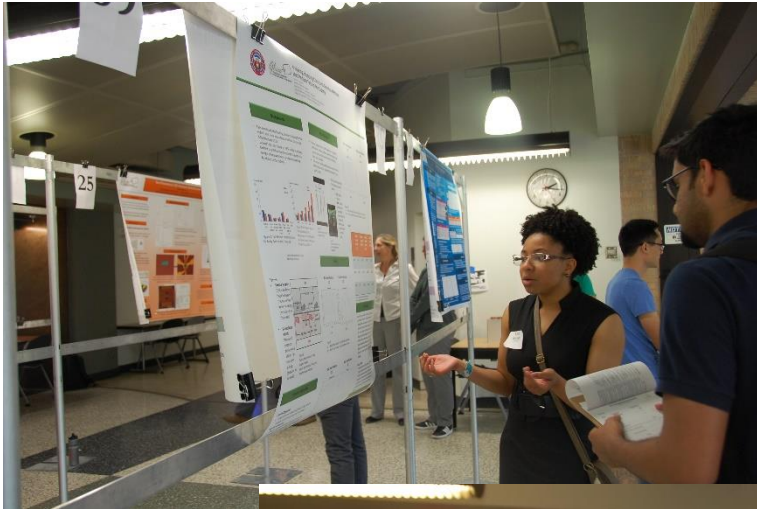


Testimonials & Data

"All in all, I really had a great experience with GLUE. I felt that I got lucky in a lot of regards. I loved my project, I had a great mentor, and I got to present in class before the poster competition. But even if I hadn't gotten so lucky, this class still would have been invaluable to me. It helped me to get hands-on research experience in a really structured and guided way. I now feel comfortable enough to be able to go on in other research roles and take on a bit more responsibility. I never would have applied for an REU or talked to professors about working in their labs if I hadn't gone through GLUE - I think I would have felt too intimidated. But now I know that they should want me; I made it through an award-winning program! I feel a lot more confident in my skills now, and am looking forward to applying the things I've learned in GLUE in the future."

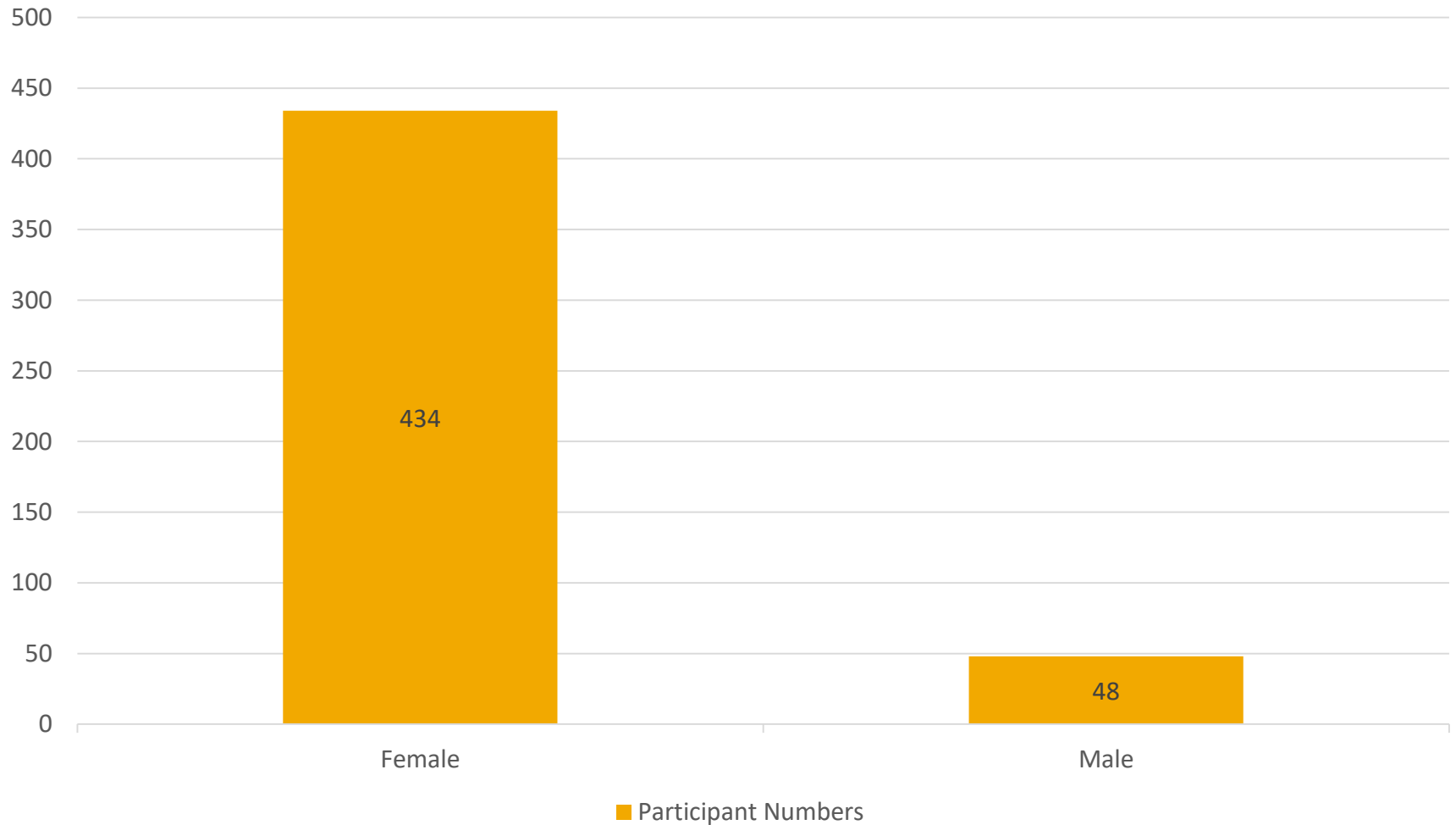


Testimonials & Data



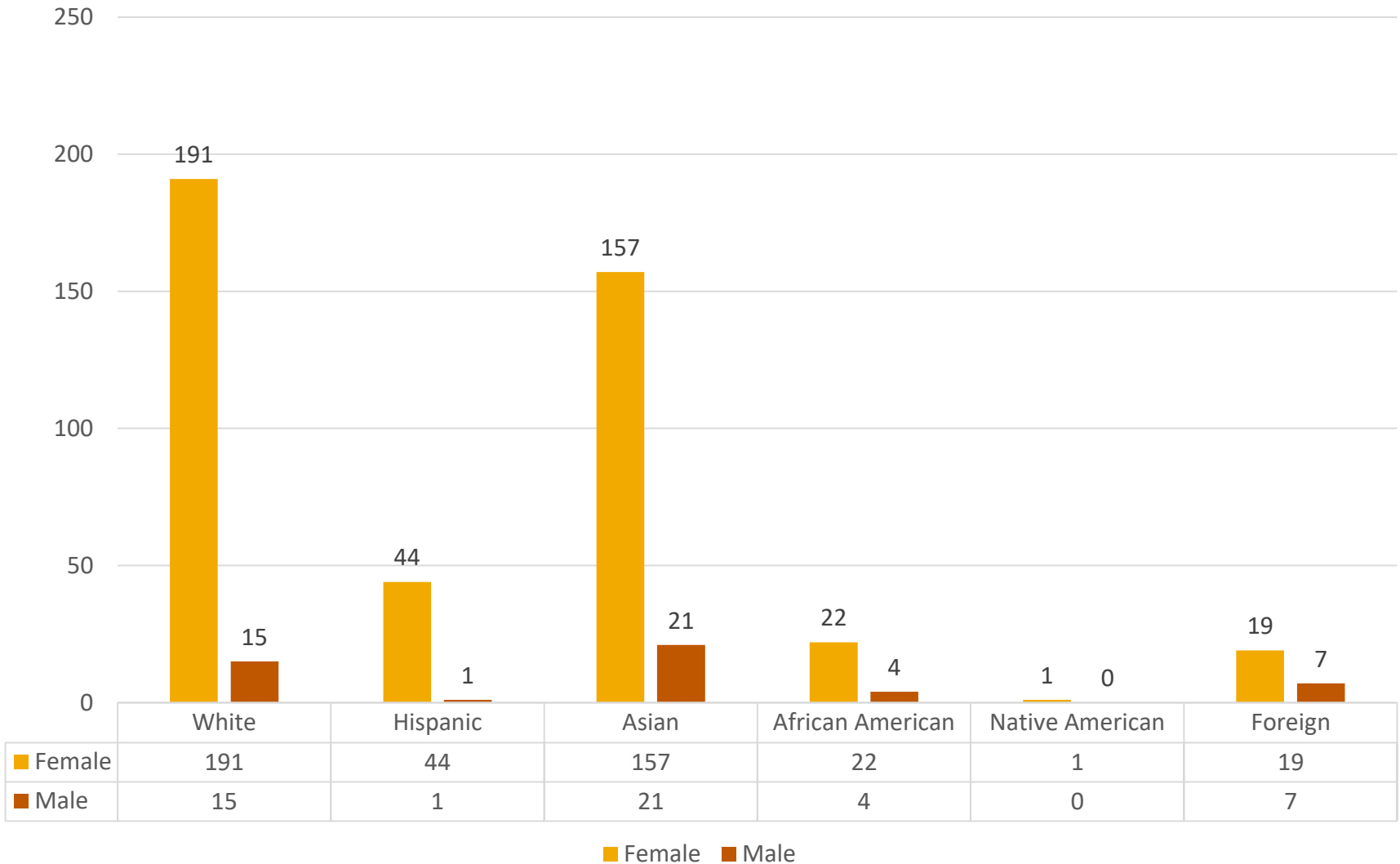


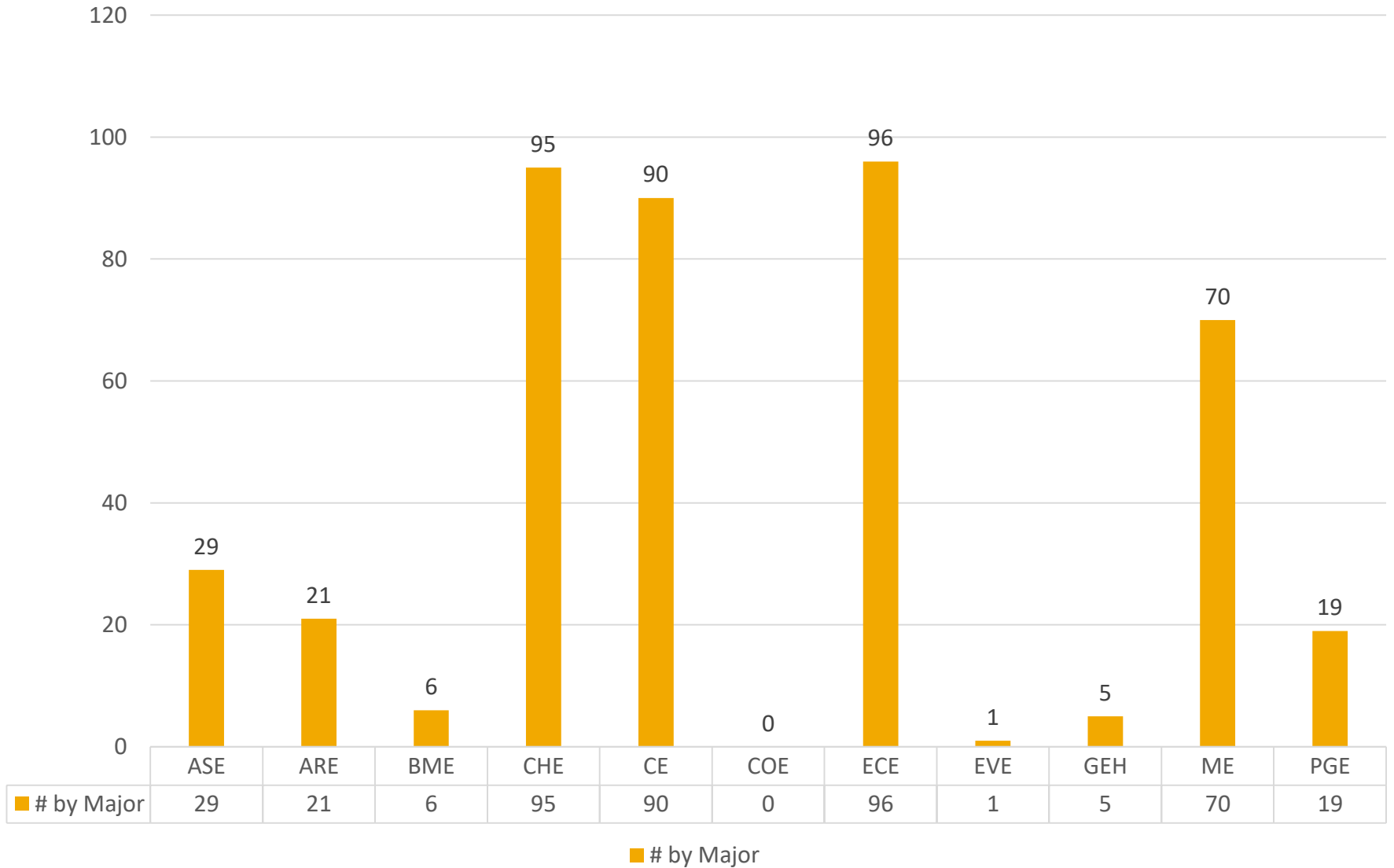
Participants by Gender, Spring 2003-Spring 2018





Ethnicity by Gender







Program Challenges

- Capacity
- Managing expectations of undergraduates
- Grad mentor recruitment
- Grad mentor understanding
- Funding



Questions

