# Cincinnati State Technical & Community College

## Electrical Engineering Technologies

# Our Team

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➢ Molly Miller, Director of Institutional Research and Effectiveness

➢ Crissy Ross, Library Director

➢ Geraldine Danger, Instructor, Electrical Engineering Technologies

➢ Dr. Ralph Whaley, Program Chair, Electrical Engineering Technologies

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# Focus: Electrical Engineering Technology

- **Electrical Engineering Technology**

  – Electronics Systems

  – Biomedical Instrumentation

  – Power Systems

  – Enrollment: $\approx$ 74 students





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# EXPLORE

A. Women are under represented in Electrical Engineering Technology (EET) program at Cincinnati State.

B. From 2015-2022, the female population in EET ranged from 9 to 11%.

| Electrical Engineering Tech. | Female | Male | Not Identify |
|---|---|---|---|
| Program FA 15 | 9% | 91% | 0% |
| Program FA 22 | 11% | 89% | 0% |
| Egr. & IT. Division | 20% | 80% | 0% |
| Cincinnati State | 61% | 38% | 1% |

1) Division has over 20% females and the College has over a 61% female population.

2) A significant opportunity gap for women exists within the EET program.

A. SMART Goal: **Increase female enrollment in Electrical Engineering Technology from 11% to 25% by FA/25.**

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# DISCOVER

❑ **Hypothesis 1**

- There is no <u>recruitment</u> that is targeted toward attracting and informing female students on career potentials in Electrical Engineering Technology (EET).

❑ **Hypothesis 2**

- Improved <u>advising and mentoring</u>, models will improve retention of women in our EET program.

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# DISCOVER

❏ **Hypothesis 3**

- Implementing <u>financial incentives</u> (ex. scholarships) and programs that relieve financial constraints for women will improve enrollment and retention in EET.



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# Discover

- **Qualitative Research**
  - We surveyed 73 female students across 14 local high schools at 3 regional recruiting events.

    - What brought you to booth?
    - Are you interested in Electrical Engineering?
    - What career interest do you have?

  - Internal review of program and curriculum
    - Support services
    - Academic proficiency
    - Marketing and recruitment material

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# Discover

- **Results**
  - What brought you to the booth?
    - Display/ Curious:  54.8%
    - Interested in EET: 16.4%
    - Obligated:  13.7%
    - Friend:  15.1%

  - What career interest do you have?
    - Healthcare: 43.8%
    - Education:  23.2%
    - STEM:  20.5%
    - Business/Arts:  12.4%

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# Discover

## Possible Barriers

- <u>Displays</u> need to be more interactive to foster interest and curiosity

- <u>Promotional materials</u> do not always reflect examples of women in technology

- Focus is primarily on <u>high school</u> recruiting

- <u>Financial Resources</u> are available but "scattered" around

- <u>Scholarships</u> for women in STEM is limited

- <u>Recruiting events</u> are primarily done by instructors

- <u>Structured advising and mentoring</u> by female mentors is limited

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# Select

## Strategies around Recruiting

- Identify and correct gender bias in curricular and promotional materials and design new displays that foster interest and curiosity.

- Emphasize Bachelor Articulations and scholarships (UC, Miami, IUPUI)

- Target middle school students and nontraditional students in recruiting as well
  - Develop summer camps

- Promote Biomedical Instrumentation Technology (BMT) program to provide a health care related pathway for female students

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# Select

**Progress around Recruiting**

- Began an overhaul of EET promotional materials to correct any gender bias and ordered several new displays for EET

- Attended 3 recruiting events in SP/24

- Establishing summer camps for SU/25
  - Black Boys in Technology (also for SU/24)
  - Girl Scouts of the USA

- Began discussions with Health SIMS Lab to utilize hospital simulations for our BMT existing and prospective students

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# ACT

**Measures for Recruitment**

- Process Evaluation
    - # of female centric Summer Camps
    - # of Middle School outreach efforts
    - Participation/Attendance
    - Promotional Materials developed

- Outcome Evaluation
    - Use and distribution of material
    - Increased awareness and exposure
    - Increased enrollment

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# Select

## Strategies around Advising and Mentoring

- Improve advising and mentoring for EET female students by making accessibility to resources easier

- Work with Society for Women Engineers club to provide help in recruiting and mentoring

- Promote CState Accelerate program

- Establish a Train-the-Trainer program for High School Teachers

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**Progress around Advising and Mentoring**

- Facilitate informal and formal support groups
    - Tutoring hours to be published
    - SWE and Student Services availability

- Ordered new table cover for SWE organization for future recruiting and social events

- Partnering with the University of Cincinnati for an NSF grant that will plan for the creation of a STEM Train-the-Trainer program for K-12 teachers in the Cincinnati Public School system

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# ACT

**Measures for Advising and Mentoring**

- Process Evaluation
  - Tutoring hours for FA/24 will be posted in each lab
  - Establishing an EET Female Study Table
  - # of female EET students in CState Accelerate
  - Complete planning of Train-the-Trainer program

- Outcome Evaluation
  - Increase in EET use of Tutoring/Math/Writing Centers
  - Increased enrollment in SWE
  - Increased retention and persistence for EET female student

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# Select

**Strategies around Increasing Financial Support**

- Create website highlighting support (such as tutoring, scholarships, child care, loaner laptop, etc.) in one area

- Work to establish new EET scholarship opportunities

# Select

## Progress around Increasing Financial Support

- Creating website landing page for female engineering students and prospects that highlights various assistance and support around the college
  - Goal:  launch in FA/24

- Ongoing work on Financial Support
  - Discussion with Foundation on fund raising with local hospitals to create a scholarship fund for BMT
  - Organizing existing opportunities to allow easier navigation and enrollment
    - Choose Ohio First
    - President's Scholarship

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# ACT

**Measures for Increasing Financial Support**

- Process Evaluation
  - # clicks on Female Engineering landing page
  - Satisfaction with page
  - # scholarships made available

- Outcome Evaluation
  - Increase use of services found on landing page
  - Increase in scholarship applications

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# ACT

**Plans for coming Academic Year**

- Utilize new promotional materials and displays in recruiting and outreach events

- Outreach events to Middle Schools and Career Centers in addition to high school and community outreach efforts

- Launch new landing page for female engineering students (FA/24)

- Begin planning for Train-the-Trainer for launch in SU/25

# Thank You!

- QUESTIONS?

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