



Stony Brook University
*College of Engineering
and Applied Sciences*



WOMEN IN SCIENCE AND ENGINEERING PROGRAM

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DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

Advancing science and engineering by promoting the participation of women

Goal



To expand and improve educational and professional STEM opportunities for female students at all levels (pre-college, undergraduate and graduate) by facilitating individual, institutional, and social change.

Context:

Stony Brook University enrolls 17,000 undergraduates, 46% female and 54% male.

Undergraduate enrollment in the College of Engineering & Applied Sciences is 20% female.

Objectives



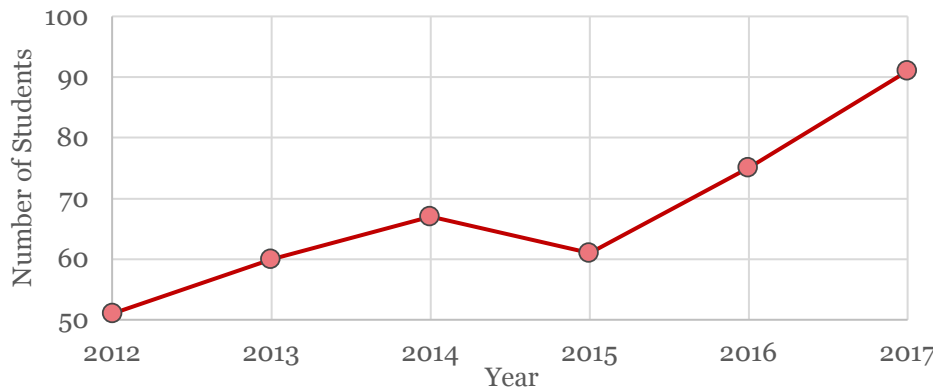
- Provide academic support
- Promote professional development
- Facilitate research opportunities
- Establish and maintain community outreach
- Encourage global collaboration
- Enact inclusive strategies

Overview

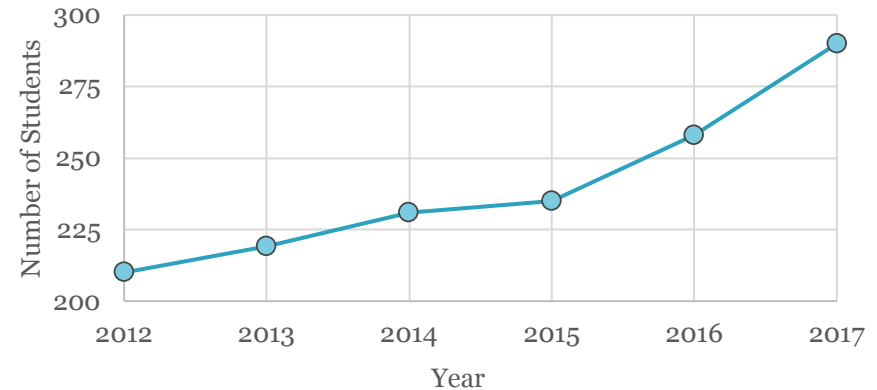
Program	Level	Targeted audience	Activities
<i>Recruitment</i>	K-12	Students	After-school activities and summer camps (hands-on and research-oriented)
			Informative talks and seminars
			Workshops from role models/professionals/etc.
<i>Retention</i>	College	Undergraduates	Four-year curriculum – Courses (hands-on, career-opportunity, leadership and research-oriented), tutoring
			Research projects with faculty and/or industry
			Mentoring and internships
		Graduates	Career mentoring, courses, research projects, leadership
			Practicum in teaching and research opportunities
Postdocs & Faculty	Practices for inclusiveness of women		
<i>Partnership</i>	All levels	Faculty and campus offices	Sponsored research, education and outreach initiatives (e.g. NSF CAREER, NSF REU, NIH R25)
		Students and postdocs	Fellowships
		Industry	Sponsored initiatives, internship experiences for students

Admissions and Retention in WISE

WISE Honors Cohort Size by Year

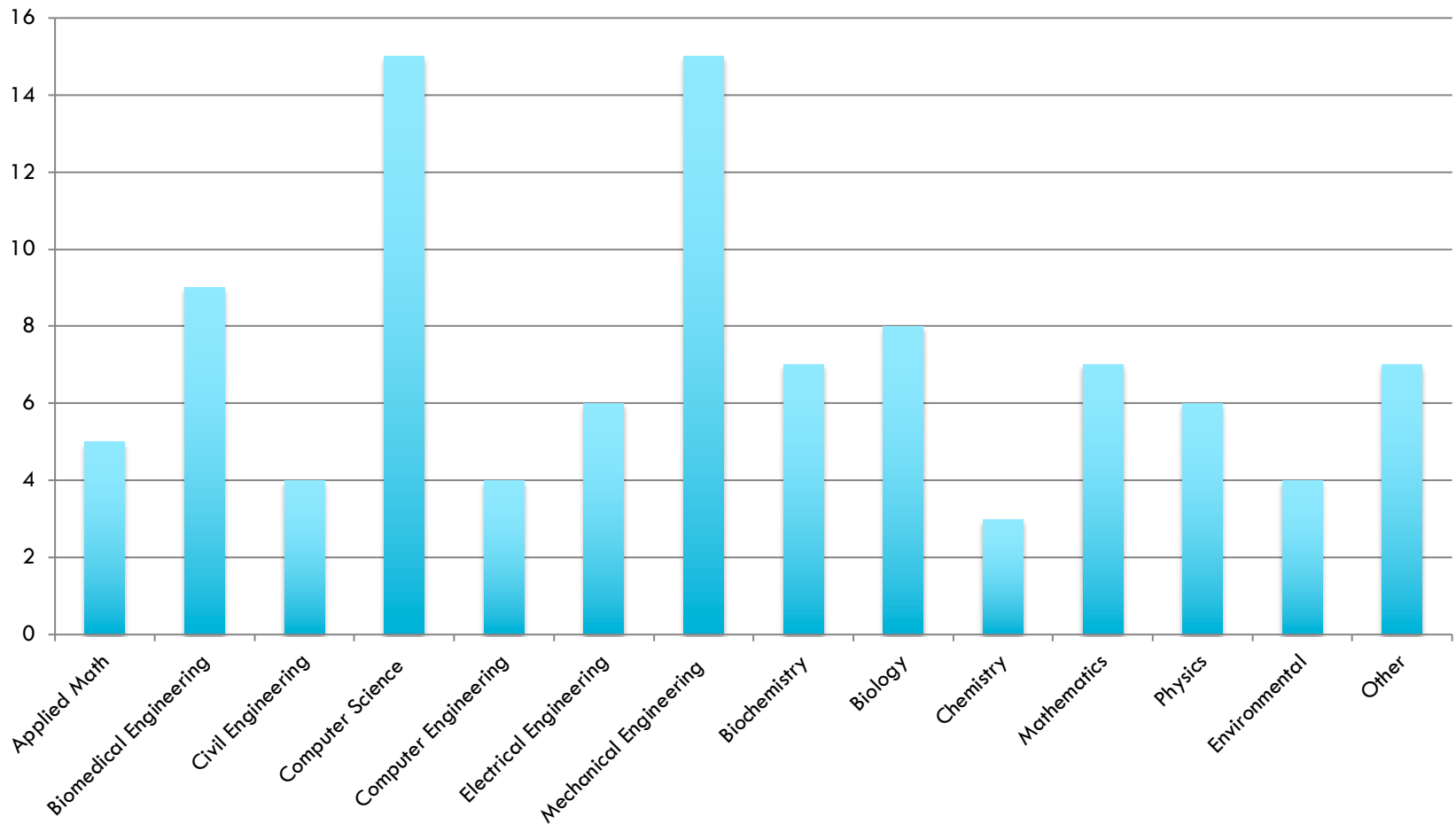


WISE Honors Enrollment



- Admission criteria:
 - Average GPA: 96.8%
 - Average SAT: 1425
- Retention rate of WISE students is 88.6% over all four years.
- Projection: 400 students in the next three years (27.25% increase)

Distribution of WISE Freshmen by Major 2017-18 (N=100)



Academic Program – WISE College

Program	Level	Targeted audience	Activities
<i>Retention</i>	College	Undergraduates	Four-year curriculum – Courses (hands-on, career-opportunity, leadership and research-oriented), tutoring
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		Graduates	Career mentoring, courses, research projects, leadership
			Practicum in teaching and research opportunities
		Postdocs & Faculty	Practices for inclusiveness of women

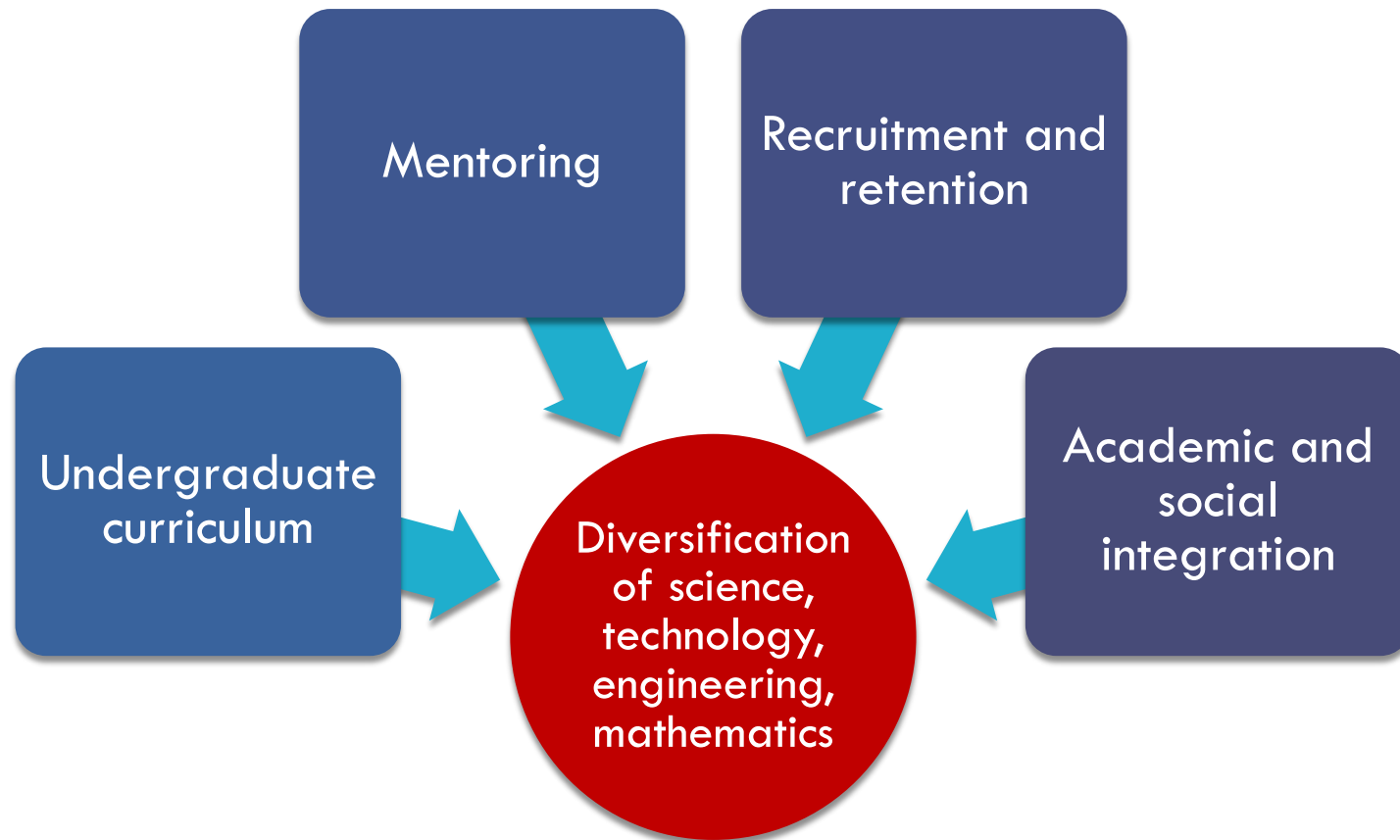
- WISE has become recognized as Honors program in the students' transcripts
- There is an admissions window to WISE open during the Fall semester
- All WISE students have mentoring opportunities available starting this year
- A graduate course on leadership will be piloted this Spring



WISE Honors Common Curriculum (20 cr)

	FALL	SPRING	ANY SEMESTER	FOCUS
First Year	Introduction to University Seminar (1 credit)	Opportunities in STEM and Beyond (1 credit)		Academics
Second Year	Society and Gender in STEM (3 credits)	Research and Discovery in STEM (3 credits)		Academics
Third Year	Service-Learning in STEM (1 credit)		WISE Practicum (4 credits total in teaching, mentoring/leadership, research, internship)	Service
Fourth Year	Women's Leadership in STEM (1 credit)	WISE Honors Project/Thesis II (3 credits)		Leadership
	WISE Honors Project/Thesis I (3 credits)		Thesis or Design Project	

Research and Evaluation of WISE



Preliminary Evaluation Data (AWE, 2007)

ITEM (Sense of Belonging) N=58	A	AS	DS	D	NA
• When I participate in science, social science, or engineering professional societies or extracurricular activities, I feel welcome.	55	36	9	0	0
• I enjoy working with other students on group work outside of class.	41	47	7	5	0
• I have many friends who are studying my discipline.	50	33	12	3	2

Response codes: A = agree, AS = agree somewhat, D = disagree somewhat, D = disagree, NA = not applicable

ITEM (Confidence/Self-Efficacy) N=58	Not at all confident	Not confident	Fairly confident	Very confident
• I am confident I will be enrolled in any major in CEAS or the College of Arts and Sciences in the next academic year.	3	2	28	67
• I am confident I will complete any science, social science, or engineering-related degree.	2	2	33	63
• I am confident I will complete any degree at this institution.	0	2	29	69

Preliminary Evaluation Data

ITEM (Balance, Integration, Self-Concept) N=58	SD	D	sD	N	sA	A	SA
• I can succeed in my major curriculum.	2	2	2	9	11	42	33
• Someone like me can succeed in a career related to my major.	0	0	2	5	9	28	49
• I can succeed in my major while not having to give up participation in my outside interests.	9	5	2	4	21	26	29
• I can make friends with people from different backgrounds and/or values.	0	2	0	2	12	70	7

SD = strongly disagree, D = disagree, sD = slightly disagree, N = neutral, sA = slightly agree, A = agree, SA = strongly agree

Potential Issues (Focus Groups & Interviews):

1. Advisement
2. Classroom climate
3. Implicit bias among faculty and teaching assistants
4. Intersectionality concerns
5. Balancing academic work and outside interests

Sponsors and Partners

Governmental agencies and programs



VISTA
Volunteers In Service To America

BROOKHAVEN
NATIONAL LABORATORY

Corporate Partners and Foundations



Institutional Support

Office of the President – Diversity Plan; School of Medicine
Admissions; Enrollment and Retention Management
Alan Alda Center for Communicating Science
Career Center; Center of Inclusive Education
Alumni Relations; School of Professional Development



Stony Brook
University

Educational Partners

Eastern Suffolk BOCES

