SUNY Poly's S-STEM Scholar Initiative

"Supporting Degree Completion in Engineering and Engineering Technology Programs through Experiential Learning and Self-Directed Professional Development."

~Spring 2025 Professional Seminar Feedback Survey~

A Brief Submitted To:

SUNY Poly

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Introduction

The report below summarizes results from a survey distributed to Scholars in SUNY Poly's S-STEM Program following the Spring 2025 semester. The questionnaire collected information regarding Scholars' required professional seminar attendance, including which sessions were attended, key takeaways, overall satisfaction, and recommendations for improvement. A total of nine Scholars responded to the survey. The results presented in this report can help organizers understand the impact of the seminar requirement and inform ongoing S-STEM programming.

Survey Results

Scholars attended a number of professional seminars during the Spring 2025 semester, with multiple respondents reporting attendance at the Semiconductors and First Resistance Design sessions. Although not shown, all but one Scholar met the minimum requirement of two seminars attended during the Spring 2025 semester, with one having attended a single seminar and another reporting six sessions attended.

Seminars Attended:

Fire Resistance Design (n=2)

Semiconductors (and Pizza) (n=6)

AI-Empowered Performance-Based Wind Engineering (n=1)

Biomedical Technology (n=1)

Career Fair(s) (n=1)

Flexible Electronics (n=1)

Future of Engineering (n=1)

Innovative Biological Technology (n=1)

Professional Dinner Manners Seminar (n=1)

Sociology Honors Prison Work Rates Seminar (n=1)

Standalone Stretchable Device Platform For Biomedicine (n=1)

Time Management (n=1)

"Talked about AI within Civil Engineering" (n=1)

When asked to describe key takeaways from the seminars, Scholars tend to relay technical, topic-specific lessons, such as the relationship between material density and fracture resistance, though many also describe insights regarding how fields such as engineering and biotechnology can help to address societal problems. Additionally, several Scholars explain that the sessions they attended were relevant to their professional interests and/or introduced potential career pathways (for comments, see next page).

All Comments:

Technical & Substantive Insights

"For the AI-Empowered Performance-Based Wind Engineering seminar, I feel that the big take away was that wind force should be taken into account when designing and building a structure of a very tall building in cities ***to make them safer for the public****. For the Semiconductor Pizza seminar, the big take away was that the new hybrid of combining hydrogels to elastomer can improve the fracture resistance and toughness of a flexible circuit."*

"For the second seminar, thinking back to the information given I learned that stretchable electronic devices developed a continuous health monitoring for people with old age. The one thing that stuck with me though was ***how it could also create opportunities in other biomedical fields such as health aging and research****."*

"From the two seminars I went to, I ***was able to gain and understanding of how engineering solutions are solving problems today****. I learned about fire safety's evolution and the bio integrated devices used in health monitoring."*

"I have done some research for other classes and that information has always stuck with me, hearing someone in the field actually give a talk to me instead reading research papers was something that help me understand how things actually work. Since it was specified to a project it also narrowed down ***how AI and machine learning was being applied instead of the broad application I usually read in journals****."*

"I learned from the first seminar that wildfires are becoming more frequent. So to combat them ***we need to implement better building codes, use fire-resistant materials, and do more research*** *on cold-formed steel. In the second seminar, Prof. Cheng discussed how traditional electronics are not able to fit the curves on the body.* ***Stretchable electronic devices are the solution for monitoring someone's health in a safe way****."*

"One thing I took away as valuable information is ***how biological material have low density even though they have superior fracture resistance****. This design was created by a 3D printer and using state-of-the-art materials."*

Professional Interests & Pathways

"The engineering seminar was great because it ***gave me an idea of not only potential options but also what I would not like to see in a career****. Time management helped me to* ***develop a schedule*** *for the final semester. The professional dinner seminar was helpful and* ***taught me real life "sophisticated" dinner manners*** *I otherwise wouldn't have known."*

"I ***learned a lot more about a pathway in my career*** *that I didn't have any knowledge of before the seminars. They are pretty fascinating to learn about."*

"I learned more about flexible electronics which is ***a field I'm interested in****."*

Scholars were also asked what topics they would like to see covered in future seminars. In response, most Scholars request coverage of specific engineering fields, with multiple requesting aerospace- and transportation-related seminars, while others would like to see content relevant to their coursework, faculty research, and post-graduation career options.

All Comments:

Narrow Topics

"Aerospace" (n=2)

"I would like to see in future seminars is what ***transportation engineers*** *use for technology and how they can master it into helping them solve problems within our roads."*

*"More about **engines** and other things like that."*

*"**Optical science** and **optics job pathways** for engineers, **coding** workshop."*

*"Some topics I would like to see in the future is **building roads** and how to design them."*

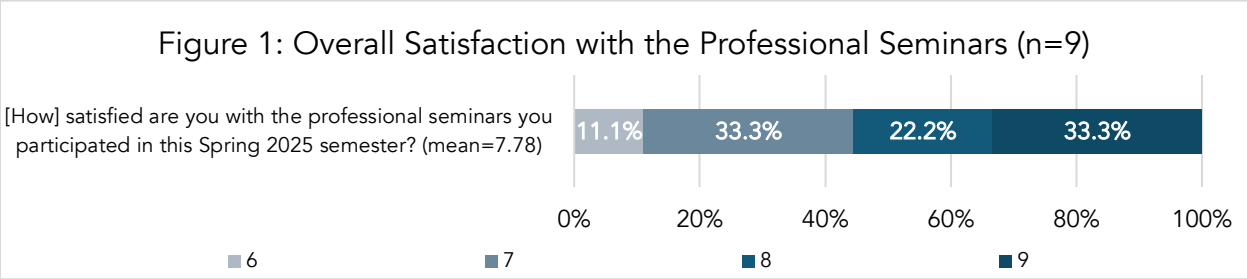
Other Comments

*"I would like to see future professional seminars talk about how the different fields of engineering apply to what is being presented. I would also like to see **how some of the engineering courses that we take at SUNY Poly can be applied to the material within the future professional seminars**."*

*"Really **anything that professors research** on."*

*"There has been a good range of seminars, I think continuing looking into different areas and topics of either engineering or work fields within them will help give a sense of **what we have to look forward to after graduating**."*

When asked to rate their overall satisfaction with the professional seminars they attended during the Spring 2025 semester on a scale from "Not At All Satisfied" (0) to "Extremely Satisfied" (10), respondents provide an average rating of 7.8, indicating a generally positive seminar experience among Scholars.



Note. This item is measured on an 11-point scale from "Not At All Satisfied" (0) to "Extremely Satisfied" (10); unselected ratings are not shown.

Lastly, Scholars were asked how the professional seminars could be improved, with respondents primarily recommending:

- Incorporating more engaging content or meeting formats,
- Additional outreach and materials, and
- Changes to session timing and scheduling.

<u>All Comments</u>:

More Engaging Sessions

*"The professional seminars could be improved by using more **creative methods to engage the audience** more in the seminars."*

*"Could make them **more engaging**."*

*"It would be nice if they were **more engaging**."*

Outreach & Preparation

*"They could be [improved] by handing out a piece of paper for everyone in the seminar with **a summary of the presentation**."*

*"They should **send out flyers and emails** regarding seminars. They should give out **a reminder every week** or so about a seminar that is going to happen."*

Timing & Scheduling

*"It was hard for me to attend some of the seminars because of the times, **maybe later seminars would give more students an opportunity** to attend without class conflict."*

*"Sometimes **the timing is [not] ideal with classes**, but there's still a few times I can attend."*

Other Comments

*"If they were more prepared when they did the seminars; both the ones I attended it seemed **the speakers weren't very prepared**."*

Summary & Reflection

Overall, survey results demonstrate that nearly all Scholars met the two-seminar attendance requirement during the Spring 2025 semester and that many walked away from the sessions with insight into their prospective career pathways and real-world applications of engineering and biotechnology. While participants were generally satisfied with their overall professional seminar experience, Scholars would like to see a wider range of topic coverage (e.g., aerospace, transportation tech) and clearer connections between seminar content and their coursework, faculty research, and relevant post-graduation career options. Additionally, to improve this program requirement moving forward, Scholars recommend exploring more engaging content and session formats, changes to the timing and scheduling of the offerings, and additional outreach, materials, and preparation. At this time, evaluators encourage program leaders to consider these findings and participant-provided recommendations in order to improve the professional seminar experience for current and future S-STEM Scholars.