Bridging Diverse Disciplines:
Engineers and Educators Expand STEM Pipeline

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What is Engineering STAR?
Two schools, Engineering and Education, recognized the challenge of expanding the pipeline to attract and prepare STEM educators. This challenge is rooted in teacher education programs that address STEM content as separate entities. Further complicating teacher education preparation for STEM is the lack of engineering preparation as a part of an integrated whole. STAR developed an innovative model that established and operated a STEM think tank, called Engineering Scholars Training and Retention -STAR.

Why Focus on Engineering and Education?
- Currently the “E” (engineering) in STEM education is nearly non-existent in teacher prep.
- Teachers and engineers need to work together and learn from each other.
- The workforce and classrooms need the next generation “to promote the progress of science.”
- Offer an innovative, high quality and affordable education to talented and enthusiastic STEM educators.

Who we impact?
Teachers and engineers will work together and learn from each other the requisite knowledge and skills to entice the next generation of STEM learners K-16.

Goals
Produce Skilled STEM Educators

Minor in Education for Engineers
15 credit program – 1st in nation

STEM Endorsement for Educators
9 credit program including engineering training

Develop Engineering Ambassadors
Build seamless communities of engineering and education students. Students from Engineering STAR serve as Engineering Ambassadors.

Promote High Yield Practices

Collaborative learning combines two key goals: learning to work and solve problems in the company of others and sharpening one’s own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences.”

Service learning, community-based learning give students direct experience with issues they are studying in the curriculum...These programs model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life.

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Engineers & Educators Collaborative Efforts
Build Professional Development Opportunities for Engineering Educators

Collaborate with Manhattan College Engineer and Education professors and local STEM teachers. STEM students participate in progressive professional development to plan, deliver, and share engineering lesson plans and activities for middle and high school students in the Bronx area.

Lesson Plans
- K-12 teachers and MC professors produced more than 30 STEM integrated lesson plans
- STAR Ambassadors presented to more than 1200 students
- A STEM lending library has become a resource for local schools