



WPI

STEM
Education
Center

ANNUAL REPORT FY2025

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INTRODUCTION

We are excited to share the purpose-driven and impactful work that the STEM Education Center at WPI does. We invite you to review our accomplishments and collaborate with us in a shared effort to transform STEM education for all.



We envision a thriving ecosystem where every learner and educator is equipped and inspired to co-create knowledge and solutions to solve meaningful problems in their communities and to build a caring and sustainable world.

Highlights of 2024-25

- Launch of new Masters in Integrated STEM Education (MISE) in January with 4 graduate students and then 7 additional grad students by June 2025
- 6 undergrads conferred with new minor in STEM Education – Teaching
- 2nd annual spring event, STEM Education Showcase '25 (with workshops in AI), continued to bring in 100+ PreK-12 educators
- 480 PK-12 teachers and 13 schools reached through our Professional Development
- 6 conference presentations, 3 peer-reviewed publications
- NSF Research Experiences for Teachers (RET) grant renewed (\$600k)
- 23 Broader Impacts consultations to assist faculty grant proposals
- Revenue generation of \$293.6k through Professional Development and grants to support Center salaries

KEY ACHIEVEMENTS OF FY25

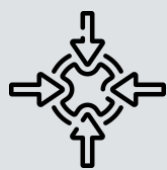
WPI Community Impact

Teacher Education academic programs connected across undergraduate Teacher Preparation licensure with education minor to graduate level (current PK-12 classroom teachers).



WPI Undergraduate Student Impact: Unique Teacher Preparation Program (TPP) adds MA state teaching licensure (in high need STEM areas) to WPI bachelor's degrees earned within four years, while TPP students gain tremendous communication skills for added value.

- ~35 in Teacher Prep Program pipeline with several new recruits in Physics
- 7 student teaching practicums in Worcester Public Schools (WPS) in Spring 2025
- **New minor in STEM Education – Teaching** approved
- New TPP course created – Supporting Diverse Learners in STEM education
- **213 UG credits delivered** through 6 EDU courses and projects for practicum
- 6 current NSF Noyce scholars + 2 new Noyce scholars recruited; 5 Noyce interns
- **5 TPP students graduated** (with licensure + STEM Education-Teaching minor)
- 2 graduates immediately went into K-12 teaching, 1 in grad school (LS&T)



WPI Graduate Student Impact: New Masters in Integrated STEM Education (MISE) brings in new graduate student population (PK-12 teachers) and revenue stream for WPI and current classroom teachers gain disciplinary knowledge and skills to be effective educators.

- **11 MISE graduate students** by the start of Summer 2025
- 4 additional students (not MISE) registered for stand-alone graduate courses
- Total of 6 graduate credit courses (EDU 500, EDU 580) developed and delivered during Spring Semester for a total of **27 grad credits delivered**
- Interest in MISE growing and greater marketing being planned

STEM Education Center's expertise supports WPI students, faculty and staff for their projects, programs, and grant proposals, while also contributing to the WPI research enterprise through grants.



WPI Student/Faculty/Staff Impact: WPI regards the Center as a resource for their projects and programs that involve PK-12 STEM and/or engages with the greater community.

- Broader Impacts support & STEM education consultations for WPI faculty/staff and students:
 - **23 faculty grant consults** with 11 letters of support
 - 8 STEM ed project consults (IQP, MQP)
- Partnered with Pre-Collegiate Outreach Programs (POP) for Women's Research & Mentor Program (WRAMP) and Women in STEM Day
- 5 WPI trainings/workshops (WRAMP, SK Day, ID527 guest lectures, EREE/RET/REU mentor training, Broader Impacts workshop with RSI)
- Facilitated **12 tables of WPI faculty and students in participating in the Family STEM Night** at the Worcester Boys & Girls Club during STEM Week in MA
- Expansion of our capacity in critical education areas of Family & Community Engagement, Supporting Multilingual Learners in STEM, and AI in STEM education



Scholarly Impact: Disciplinary contributions to the field of STEM education & teacher education, and enhancing WPI's research portfolio.

- 2 NSF and 3 State grants (as PI or co-PIs): total **expenditure of \$390,301** and externally recovered **indirect costs of \$39,575** (note: RET, S-STEM grants not included in financial totals since associated with other departments)
- 6 presentations at 4 conferences
- 3 peer-reviewed publications
- Revenue generated for Center salaries: \$293.6k

Greater Community Impact

The STEM Education Center is known outside of WPI as leaders in PK-12 STEM education and as collaborative partners for teacher education and accessible STEM opportunities in the local community.



PK-12 Teacher Impact: Teachers and school administrators grow in their ability to facilitate and support high-quality STEM learning for all of their students.

- **489 teachers reached** through 75 Professional Development (PD) sessions, representing 268 hours of instruction
- **13 schools** hired the STEM Ed Center for PD (for a total of 109 hours of instruction)
- Selected to partner with Mass. Dept. of Elementary & Secondary Education (DESE) in delivering PD on the pedagogy of using high-quality instructional materials
- Center became a “certified OpenSciEd PD provider” for all K-12 levels
- 17 new, free Teacher Resources created and posted online
- 8 middle/high school teachers (+ 1 mentor teacher) participated in RET Summer 2025
- TPP mentor teachers, RET in-service teachers, and key partner community organizations receive WPI pennants to display for WPI branding and recruitment



Worcester Community and Partners Impact: Over 35 community-engaged activities that include PK-12 students, PK-12 teachers & mentors, and family members in the Worcester area; WPI (& STEM Education Center) recognized as a community partner invested in the Worcester community.

- Led the **Central MA STEM Network (CMSN)** Ecosystem for supporting STEM in the region by coordinating STEM Week and organizing multiple meetings for members
- Partnered with **African Community Education (ACE)** for EDU 2200 course in supporting afterschool program tutoring and enrichment programs
- Partnered with **Youth Connect** organization for EDU 2300 course with weekly hands-on STEM Design Challenge Club afterschool program
- Supported Worcester **Head Start** preschool with in-kind “Seeds of STEM” training & binders (~\$3.7k)
- Worked with **YWCA** afterschool program and **Worcester Tech HS** to bring WPI volunteer to tutor K-12 students

- Led or co-led **5 large community events** (e.g., CMSN Ecosystem STEM Week Family STEM Night, Women in STEM Day at WPI for MS/HS students + champions, HS Leadership Academy w DESE, Avanza STEM Expo 2025 at WSU)
- 100+ PreK-12 educators attended the **STEM Education Showcase '25** event at WPI
- Partnered with Mass Academy to run the summer **Junior Academy** for Worcester 7th-9th graders (adding 9th grade programming this summer)
- Kathy Chen selected for Principal for the Day program and as a Woo-Labs panelist; Community Curator for EcoTarium exhibit
- Noemi Robertson received Girls Inc. Community Partner award

APPENDIX

STEM Education Showcase

- [STEM Education Showcase '25](#)

RET participant posters

- [Research Experiences for Teachers \(RET\) Posters](#)

News Articles

- [E19: College Connections | Em Beeler | Class of 2022](#)
- [Meet the freshman teachers who are starting out this fall in Worcester schools](#)

WPI Announcements

- [Noemi Robertson Joins Leadership Worcester Class of 2026](#)
- [OpenSciEd at WPI: Launching High School Science Forward](#)
- [Join Us August 8 as RET Teachers Present UN SDG Research at Poster Symposium](#)
- [WPI Noyce Scholars and Faculty Attend National Noyce Summit](#)
- [Teacher Candidates Successfully Complete Student-Teaching Practicum In partnership with the Worcester Public Schools](#)
- [Research Experiences for Teachers \(RET\) in Engineering Program Kicks Off with Fourth Cohort](#)
- [Mass Academy hosts Junior Academy summer program to build STEM pathways for local Middle School Students](#)
- [WPI Hosts Worcester Public Schools' Elementary Teachers for Professional Development](#)
- [Student volunteers lead hands-on STEM workshops at AVANZA Expo 2025!](#)
- [Launching Careers in Education: Meet Our Newest TPP Graduates](#)
- [WPI students continue volunteering their time at Worcester Public Schools](#)
- [STEM Education Showcase '25: A Day of Collaboration, Learning, and Inspiration](#)
- [A Day of Inspiration: Women in STEM Day at WPI](#)