

Chelmsford High School Engineering HAWKS Initiative

At Chelmsford High School, our goal is to build a vibrant and diverse engineering community, drawing from the valuable experiences gained through the RAMP program at UMass Lowell.

Building on RAMP Experiences

The RAMP program at UMass Lowell provided a comprehensive blend of academic learning, practical experience, and mentorship, which significantly shaped our approach to the Engineering HAWKS club.

During the RAMP program, we participated in a project focused on assessing air quality at the UMass Lowell campus. Our team was responsible for developing air sensors, which included wiring PM2.5 sensors to Adafruit boards and programming them to transmit real-time data to a public dashboard. This task presented challenges such as wiring issues and debugging complex code. However, the mentorship provided throughout the program was crucial in helping us overcome these obstacles. The guidance and expertise of our mentors were key to improving our problem-solving skills and advancing the project.

A particularly valuable aspect of the RAMP experience was the opportunity to collaborate with various industry partners. Although our group worked specifically with one partner, the program divided participants into teams that collaborated with different companies, each offering unique insights into the engineering profession. These partnerships provided us with real-world experience, career advice, and the chance to explore potential future collaborations. This exposure to industry practices deepened our understanding of engineering and strengthened our commitment to pursuing careers in this field.

Promoting Engineering Clubs

To build a strong engineering community at Chelmsford High School, our goal is to increase participation in existing clubs such as Women in STEM, Robotics, Physics and Engineering, and the Science Team. Our outreach strategy includes setting up engaging booths at activity fairs, utilizing social media platforms like Instagram, distributing visually appealing flyers, collaborating with teachers, and hosting guest speakers from local universities and industries.

Improving Project Quality

Raising the quality of projects within our engineering clubs is crucial for maximizing their impact. We plan to invite guest speakers and mentors from institutions like UMass Lowell, secure funding for essential resources, and conduct hands-on workshops to provide students with practical skills and a deeper understanding of engineering concepts.

Encouraging Inclusivity and Interest

Creating an inclusive environment that welcomes individuals from all backgrounds is essential for building a thriving engineering community. Our strategies include organizing educational workshops and talks, collaborating with other programs, developing mentorship programs, and offering interactive presentations to attract a diverse audience and inspire interest in engineering.

Moving Forward

As we launch the Engineering HAWKS club, our focus will be on creating a supportive and inspiring environment for all students interested in engineering. By increasing club participation, improving project quality, and fostering inclusivity, we are going to make a meaningful impact both within Chelmsford High School and the wider community.