

PROGRAMMING FOR

DIVERSE STEM TEAMS

**THE FORD ROBOTICS BUILDING
AT THE UNIVERSITY OF MICHIGAN**
A FIRST-OF-ITS-KIND ROBOTICS RESEARCH HUB





The right mix of elements can result in a STEM facility that stimulates interdisciplinary learning and discovery—namely research, collaboration and connection to the campus context.

How can these elements be successfully mixed in situations where innovation is key, and the departmental and programmatic demands are complex?

Continue reading to learn more about HED's **planning and design strategies that produce behavior shifts in support of interdisciplinary learning and discovery.**

THE CHALLENGE

DO WHAT'S NEVER BEEN DONE BY COMBINING PROGRAMS THAT HAVE NEVER BEEN COMBINED

As the first building dedicated to interdisciplinary robotics research and applications with the first robotics department among top engineering schools, the Ford Robotics Building (FRB) needed to accommodate research and development programs and facilities for engineering, sensor and AI tech, psychology, and various computer science programs.

The challenge at the University of Michigan (UM) was to bring together disciplines, departments, and user groups from buildings all across campus and create a single center to be the new home for robotics.



11.4k
Students



18
Undergraduate Degree Programs



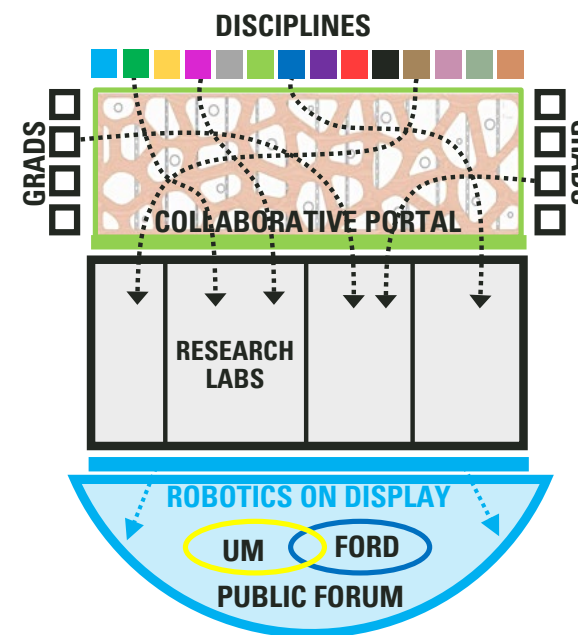
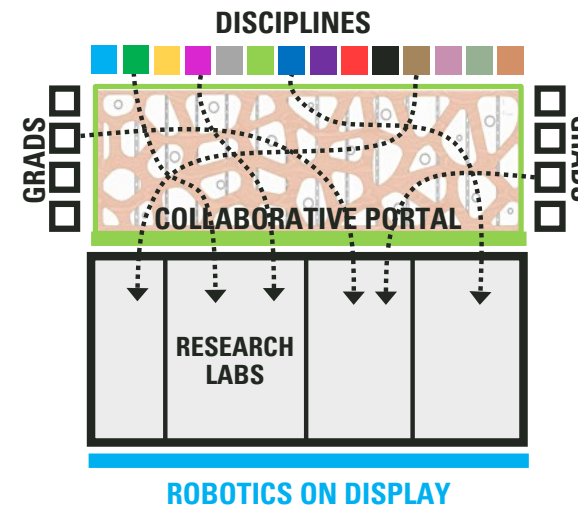
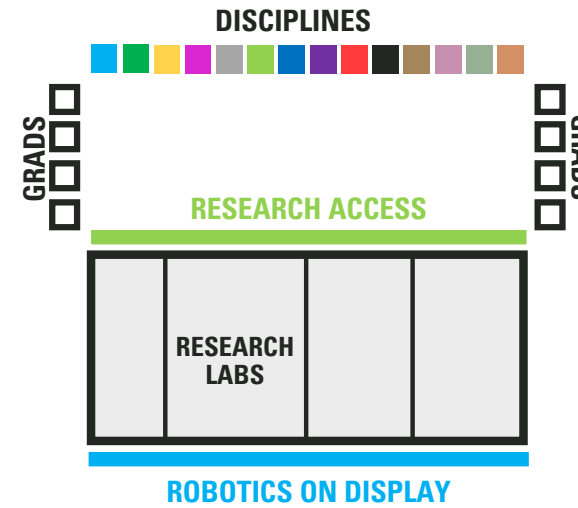
1.5k
Faculty and Staff



14
Departments and Divisions



60
Buildings Occupied



THE SOLUTION

THEMES, NOT DEPARTMENTS

Through a series of benchmarking workshops, a vision of an interdisciplinary facility took shape, organized around problems and themes rather than departments. Where each specialization, viewpoints or knowledge contributes to the overall innovation and solutions.

DESIGNED FROM THE INSIDE OUT

The facility revolves around the research laboratories at the center with graduate and researcher access democratized and funneled through a collaborative portal. This gently encourages meeting, collaboration, discussion, and interdisciplinary socialization before users even enter the lab space.

The labs themselves are highly flexible, day-lit, modular, and adaptive – a workshop that welcomes every discipline and is highly functional.

ROBOTICS ON DISPLAY

A multi-story atrium engages the public and the campus community, as well as outdoor robotics testing architecture. The facility supports being on display with this open public face and enclosed and secure research.



THE RESULTS

The facility in its totality is extroverted, exciting, and showcases the cutting-edge research and development and education taking place at UM.

FRB is designed around the concept of creating solutions from many sources, uniting a variety of programs in a single space to solve challenges.



THE TAKEAWAYS

Thoughtful programming can foster the convergence of several programs successfully

Planning strategies to align theory, application, and functional needs

Tangible design and building organization approaches that create interdisciplinary environments and integrating diverse programs

Importance of designing smart social and collaborative spaces that influence activity