

# NeuroMaker – Bridging Biotechnology, Robotics, and Career & Technical Education (CTE)



## NeuroMaker: Where Biotechnology Meets Robotics in CTE

NeuroMaker combines the cutting-edge fields of biotechnology and robotics to transform Career and Technical Education (CTE) classrooms into hubs of innovation. Through hands-on projects and real-world applications, NeuroMaker equips students with the skills and experiences they need to succeed in today's fastest-growing industries.



## Empowering CTE with Biotechnology and Robotics

- **Real-World Biotechnology Applications:**
  - Students engage with biotech tools like the **NeuroMaker Hand 2.0** and **BioSensor Kit**, derived from real-world prosthetic engineering and biomedical research.
  - Activities include measuring muscle signals (EMG), coding bio-inspired systems, and designing biomedical solutions, introducing students to careers in healthcare, biotech, and research.
- **Innovative Robotics Experiences:**
  - NeuroMaker integrates **robotics** with its curriculum, enabling students to design, build, and program robotic systems.
  - The NeuroMaker Hand combines mechanical engineering with programmable technology, allowing students to explore robotics applications in medical devices and prosthetics.
- **Interdisciplinary Connections:**
  - NeuroMaker bridges **biotech** and **robotics**, offering a unique platform for exploring the intersection of biology, engineering, and technology.
  - Students tackle challenges like coding brainwave-controlled devices and designing robotic prosthetics, fostering critical thinking and problem-solving skills.



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**BUILD. CODE. CREATE. DISCOVER.**

### Why Biotechnology and Robotics in CTE?

- **High-Demand Fields:** Biotech and robotics are among the fastest-growing industries, with applications in healthcare, manufacturing, and artificial intelligence.
- **Hands-On Learning:** NeuroMaker provides students with tools to work on meaningful projects, such as robotic prosthetics and brainwave-controlled devices.
- **Future-Ready Skills:** By working with NeuroMaker, students develop technical expertise in coding, signal processing, and engineering design—essential for careers in biotech and robotics.

### The NeuroMaker Impact

- **Engaging Future Innovators:** In a recent PepsiCo R&D-sponsored program, students explored biotech and robotics concepts like AI-driven manufacturing and bio-signal analysis.
- **Proven Success:** 75% of students reported increased interest in pursuing STEM careers after using NeuroMaker tools and curriculum.
- **Equitable Access:** Designed to work with standard equipment like Chromebooks, NeuroMaker ensures accessibility for all students.

### Explore NeuroMaker's Ecosystem

#### Hardware:

- **NeuroMaker Hand 2.0:** Build and program a prosthetic hand, blending robotics and biomedical engineering.
- **BioSensor Kit:** Explore biological signals with sensors that measure muscle activity, motion, and more.
- **BCI Headband:** Analyze brainwaves to control devices and uncover the connections between neuroscience, robotics, and AI.

#### Curriculum:

- Over 100+ hours of lessons that integrate biotech, robotics, and STEM fundamentals, aligning with CTE standards and supporting educators of all skill levels.

#### Professional Development:

- Comprehensive training through e-learning modules, live support, and embedded resources to ensure seamless implementation.

### Shape the Future of Biotech and Robotics in CTE

NeuroMaker prepares students to lead in the fields of biotechnology and robotics, empowering them with practical, transferable skills and innovative mindsets. By bringing NeuroMaker into your CTE program, you:

- Inspire students to explore biotech and robotics careers.
- Equip them with industry-relevant tools and knowledge.
- Bridge the gap between classroom learning and real-world applications.



Product Catalog



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