



At BSA, mechanical engineering is integral to creating environments that support discovery, healing, and learning. We ensure every facility we design is not only functional but transformative for the people who use it.

As leaders in engineering for health care, higher education, and research environments, we work closely with clients to understand their philosophy, aspirations, operational needs, and budget. This collaborative approach allows us to deliver creative, practical solutions, from efficient core systems to highly specialized mechanical infrastructure, while guiding projects smoothly from concept through completion.

Advancements in technology and care are constant, and buildings must evolve alongside them. Our engineers design scalable infrastructure that supports future growth, including vertical expansion, modular equipment zones, and adaptable mechanical systems. This approach ensures facilities remain flexible and responsive to changing needs over time.

Our team designs reliable mechanical systems that carefully control temperature, humidity, pressurization, and air quality, critical elements for patient safety, research integrity, and occupant comfort. These systems are seamlessly coordinated with architecture and other engineering disciplines to deliver high-performance environments.

Sustainability and resilience are central to our process. Through energy modeling, efficient system design, and responsible resource use, we help clients reduce

environmental impact while lowering long-term operational costs. Even when formal sustainability targets are not required, early performance analysis helps guide informed design decisions.

At BSA, engineering goes beyond systems. We create tailored mechanical solutions that support our clients' missions while delivering environments that welcome, endure, and empower the people who use them every day.

MECHANICAL SYSTEM DESIGN

- Central Utility Plants - Chillers, Cooling Towers, Boilers, etc.
- Building automation & HVAC controls systems / integration
- Air Handling Systems - Chilled Water and DX
- Exhaust & Ventilation Systems - Hazardous, Pandemic, & General
- Pumping Systems - Chilled, heating, & closed loop

MECHANICAL ENGINEERING SERVICES

- Existing systems evaluation
- Master planning – new and existing systems
- Energy performance studies
- Construction documents preparation
- Construction administration
- Owner's standards development
- Post-occupancy systems evaluation
- Sustainability consulting and design

Discover more at bsadesign.com/engineering