

## PROJECT PROFILE: **UNIVERSITY**



**PROJECT:** MSU - NORTHERN  
APPLIED TECHNOLOGY CENTER  
Havre, Montana

The new 22,000 square foot Applied Technology Center prepares students to meet academic and industrial standards related to quality assurance, project management and technology integration. This project included a diverse array of acoustically challenging spaces that BSA was entrusted to address during design, including the Lecture Hall, the High-Bay Industrial Labs and the Video Conference Room.

### **BSA's SERVICES AND SOLUTIONS:**

#### Room Acoustics

- Using computer models, evaluated the effectiveness of various acoustical treatments, including ceiling treatments and wall panels.
- Determined cost-effective treatments to enhance speech intelligibility in the 108 seat multi-media Lecture Hall, as well as the Video Conference Room.
- Developed recommendations for treatments to control the overall noise levels inside the Industrial Lab and the Dynamometer Test Cells.



#### Sound Isolation

- Developed wall construction details to properly isolate the following adjacent spaces:
  - ◇ Video Conference Room / Mechanical Room
  - ◇ Video Conference Room / Reception Area
  - ◇ Dynamometer Test Cell / Control Rooms

#### Mechanical System Noise and Vibration Control

- Developed computer models to predict noise levels of the proposed HVAC systems serving the Lecture Hall and the Video Conference Room.
- Used the models to evaluate the effectiveness of various noise control measures, including specific lengths of duct liner, acoustical plenums, duct attenuators, and modifications to the air-handling units to ensure low background noise levels in each space.

