



Concordia College - Integrated Science Center



EPA Audio Visual, Inc. was selected by Concordia College to design and integrate a comprehensive audio visual system within the campus' newly renovated Integrated Science Center.

Representing the single largest renovation ever for the Moorhead, MN campus, the \$45 million project took several years between planning to execution. A complete rebuild of the adjoining Ivers and Jones Science buildings was required including replacement of the buildings' mechanical and electrical systems. EPA worked strategically with the other contractors, ensuring the college's needs were met as the project progressed.

Concordia was faced with incorporating the latest audio visual technologies into the classrooms, labs, collaboration spaces and seminar rooms of the Integrated Science Center. The pre-existing architecture, furniture and room design forced most classes to be primarily lecture-based which did not fit the needs of the students or the professors' wishes for a collaborative learning experience. Also, installing new technology would be expensive and sound transmission would be hampered by the physical aspects of the classrooms.

Housing the biology, chemistry, physics, nutrition/dietetics, mathematics and psychology departments, the science center was designed to attract top students and faculty. Concordia IT's team worked closely with the faculty to provide an integrated facility to support the unique needs of the many disciplines. The goal was to create an environment where students could interact and learn using the technology while standardizing the classrooms to support future solutions without expansive design.

Due to the nature of the renovations, there were design obstacles such as low ceilings, HVAC obstructions and floor access challenges, which required thoughtful collaboration with the architects, engineers, faculty, and technical staff to develop creative solutions for each space. For rooms with specific purposes or unique needs, EPA designed systems which included the capability for virtual presentations and a collaborative computer lab environment. Many

PRODUCTS USED

- Sony FHZ Laser Projection
- Da-Lite Advantage Electrol Screens
- Crestron AirMedia Wireless Presentation
- Crestron DigitalMedia Switching & 3-Series Control Systems
- Extron MediaLink Controllers
- Elmo Document Cameras
- JBL Professional Speakers
- Lab.Gruppen E-series Digital Amplification
- Cisco TelePresence Conferencing Codecs
- Polycom SoundStructure Conferencing DSP
- Sharp Professional Monitors
- Spectrum Industries Freedom One Lecterns & Access Tables

TECHNOLOGIES DEPLOYED

- Laser Projection
- Touch Screen Control
- Video Distribution over HDBaseT
- Wireless Presentation
- Audio & Video Conferencing
- LED Video Monitors
- Height-adjustable Furniture



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“We’ve worked with EPA for nearly 30 years as a parts supplier. For the project, we needed their expertise in design and installation. The ability to partner with a company and people we know was very instrumental in our decision to go with EPA.”

*Ron Balko
Learning Technologies
Coordinator, Solution Center*



of the classrooms required complex AV systems to be user-friendly for faculty and staff with various experience levels.

The EPA installation team integrated customized solutions for each room, covering multiple sized classrooms to discipline-specific labs, seminar, discussion and conference rooms. Across all rooms, EPA designed a room system standard based upon a Crestron® 3-Series® DigitalMedia™ Presentation System. The Crestron system manages switching and signal extension of all content sources into a DM 8G+ scaling receiver at the projector location ensuring consistent high definition playback. For viewing in the various lab spaces and classrooms, ceiling-mounted Sony WUXGA laser projectors display on to Da-Lite® Contour® Electrol® screens. Media sources include an Elmo LX-1 document camera and digital HDMI inputs for laptop interfacing. Program audio is distributed by JBL compact in-ceiling speakers powered by Lab.Gruppen audio amplifiers. A Crestron Touch Panel provides a user-friendly control interface with functions for system on/off, source selection and control of audio levels. Components are stored in Middle Atlantic equipment racks.

The Math and GIS computer labs were designed for collaboration use with Sharp 42” or 55” HD LED Displays mounted at the student tables. Each student table operates independently to enable small group interaction but also permits the instructor to display content across all displays in a lecture-style setup providing a very versatile multi-function environment.

Small and medium classrooms feature Sony FHZ laser projectors and Da-Lite Contour Elector wall-mounted screens. Large classrooms required multiple display surfaces provided by dual laser projectors and larger Electrol screens to ensure impact and legibility for all students

“EPA’s team of sales, engineering and installation experts was critical in choosing them. They had the complete package and they continue to follow up, even a year after going live.”

*Erik Ramstad
Executive Director of
Information Technology
Services*

throughout the space. All classroom equipment is stored within a Spectrum Freedom One adjustable height workstation enabling the instructor to sit or stand during lectures.

The renovation included the implementation of a tiered Lecture Hall, the largest teaching/learning space in the science center. Two Sony WUXGA large venue laser projectors display onto dual Da-Lite Advantage® Electrol® screens which allow critical viewing from any location throughout the room. As with the other classrooms, system operation is handled by the Crestron 3-Series DigitalMedia system and touch panel control interface. The size of the room required the addition of speech reinforcement which is achieved by Shure gooseneck, handheld and earset microphones and a Williams Sound Personal PA® Pro FM Assistive Listening System.

The need for a distance learning classroom experience required application-specific products managed by an outside vendor that specializes in that type of room, ensuring all distance-learning rooms across campus utilize the same videoconferencing software standard. Featuring the same basic AV configuration as the other classrooms, the video classroom incorporated Cisco Telepresence codec's and cameras, Polycom® HDX Ceiling Microphone Arrays and SoundStructure® digital signal processing as well as a Shure wireless earset microphone.

Discussion, seminar and smaller conference and meeting rooms are built around a Crestron AirMedia™ Presentation Gateway allowing instructors and students the ability to wirelessly present over the network onto wall-mounted Sharp 60" Class HD LED Displays. A Crestron DigitalMedia 8G+transmitter and scaling receiver accommodate local device input with system control via Extron MediaLink wall controllers.

EPA integrated a turnkey AV solution focused on the teaching/learning experience throughout the facility, utilizing thoughtful design and equipment implementation in close partnership with faculty and staff. The inclusion of Crestron's AirMedia wireless presentation functionality greatly enhanced the building's collaborative capabilities. Since project completion, Concordia has had to make minimal changes but has found them easy to implement, reinforcing the goal of progressive standardization within the building. The impact of the new system was almost instant. Students adapted to the new technology right away with little to no training. They can be found in small or large groups sharing information on the 60" High Definition display using the Creston AirMedia wireless devices.

"It's very fulfilling to see years of work come together for that type of outcome. It is why we are here," said Erik Ramstad, Concordia's Executive Director of Information Technology Services.



"EPA was very strategic in working with the other contractors and making sure our needs were being met as the project moved forward. EPA was our partner and advocate through the whole process. Design-build and a strong partner in EPA was the key to success."

Erik Ramstad

