

➔ Challenge

Help high school art students understand the effects of color and shadow on our perception of objects and artwork.

➔ Solution

An innovative lighting system using color-changing track lighting with Crestron control as a teaching tool.



Visualizing a better art education



This flexible system really intensifies the learning experience by allowing the students to play lighting designer, observing subtle changes in color and shadow as they manipulate the lights.”

Alabama High School art department uses Crestron lighting control to help students get excited about art and understand lighting and color on an intuitive level

Light is the basis of all the visual arts. The color of a painting or lithograph, the shape of a sculpture, and the texture of a work in fabric are revealed to us only by the direction, intensity, and color of the light that illuminates it.

Thus, when the art teachers at Opelika High School were considering the lighting system for two new classrooms, they wanted something special, something that would help their students understand in a visceral way how lighting influences how we all perceive the world around us.

The two new art rooms, complete with color-changing LED lighting systems, are part of a two-year, \$39 million renovation to the Opelika, Alabama High School, just completed this fall.

The special lighting system in the art rooms and a centralized lighting control system for the entire school are powered by Crestron technology.



A massive renovation

Opelika is a small community in eastern Alabama, located about 60 miles northeast of Montgomery. Its high school, founded in 1911, is best known for its strong art, theater, and athletic programs.

The school has just completed a massive renovation that added over 227,000 square feet of new classroom space plus a new cafeteria, field house, and entrance.

The work was done over three phases during 18 months of construction, which allowed students to occupy the original parts of the building while new sections were being built, then utilize the new sections while the old part was demolished and replaced.

The new areas include wall-mounted Crestron keypads in each classroom and occupancy sensors in offices and storage areas. However, building lights are mainly automated by a centralized Crestron control system that turns lights on and off according to the school year schedule and special events.

The art rooms are truly unique, with color-changing architectural fixtures in addition to the standard classroom fluorescents.

A new way of seeing

According to the lighting consultant who designed the systems for the new building, "The ultimate goal of the



The Crestron controls make it easy to mix colors and change lighting intensities, so students can observe how lighting affects how we view and interpret our world."

art room lighting is to encourage students to take a more active interest in the arts."

"These classrooms rate as one of my favorite Crestron control projects," he adds. "The system allows the instructor to not only manage the light levels but also to change colors."

Each classroom includes six Black Tank MIRO Cubes™ 4C fixtures mounted on standard tracks on the ceilings. Each MIRO fixture includes red, green, blue, and white LEDs, which can be combined to create virtually any color. Each also includes a set of lenses that can provide coverage from a very narrow 15° spot up to 70° flood lighting.



Teachers and students can use a seven-inch Crestron TSW-750 touch screen to control the color and coverage of each fixture, and to control a Crestron dimming panel that adjusts its intensity.

Lighting, and how it affects the shape and appearance of an object, is very difficult to learn from a book, yet simple to understand when demonstrated and observed. “This flexible system really intensifies the learning experience by allowing the students to play lighting designer, observing subtle changes in color and shadow as they manipulate the lights,” the consultant notes. “The ultimate goal is to help students get more excited about art. I can tell you it works.”

The new system also can be used as a tool to teach the students about lighting control, as they change the color, coverage, and intensity of each fixture individually from the touch screen. “For example, some track heads can be set to blue while others are set to red, creating a purple lighting scheme on a sculpture to demonstrate how color and shadows affect its appearance.”

A great day

While the lighting in other parts of the new high school is less dramatic, it also benefits from the advanced features and efficiency of Crestron technology. As teachers and administrators get used to the new building and begin to think about they might want to make changes in its schedule and use, they will find



the centralized lighting system is extremely flexible and easy to use.

For now, students and faculty are excitedly using the new facilities. According to the principal, Dr. Farrell Seymour (quoted on WRBL-TV, Columbus, GA), “We have already seen a great boost in school pride...It’s a great day for Opelika High School.”

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