

Greenheck Project Profile

Hospitality and Culinary Academy, Johnson County Community College

Overland Park, KS

- **Engineering Firm:**

Lankford | Fendler + Associates
Kansas City, MO

- **General Contractor**

JE Dunn Construction
Kansas City, MO

- **Mechanical Contractor**

Trieb Sheet Metal Company
Kansas City, KS

- **Greenheck Rep**

Jorban-Riscoe Associates, Inc.
Lenexa, KS



Dining Room Kitchen, Room 148 at the Hospitality and Culinary Academy.

The Challenge

- **Provide variable volume kitchen ventilation systems to accommodate fluctuating cooking loads and save energy in multiple classrooms**
- **Expose students to advanced, integrated kitchen ventilation systems**
- **Install quiet operating ventilation system so productive instructor/student conversations can take place**
- **Create flexible utility distribution system at double island hoods that could easily be adapted to future kitchen equipment reconfigurations**

Precise pressure control required for odor control between classrooms, labs and offices.

The new \$10 million Hospitality and Culinary Academy at Johnson County Community College in Overland Park, Kansas is a 36,000 square-foot building containing multiple kitchens and classrooms serving up to 700 students seeking management positions in the food service industry.

It was completed in the summer of 2013, and supports JCCC's hospitality management program, one of only 28 programs

in the U.S. recognized as "exemplary" by the American Culinary Federation Education Foundation (ACFEF) Accrediting Commission.

With such a reputable academic program at stake, college officials wanted this new building to showcase state-of-the-art, energy-efficient kitchen operations and deliver a first-class learning experience.



Greenheck's Solution

- **16 Type 1 Hoods with Front Supply Plenums**
- **18 Centrifugal Upblast Fans, Model CUBE**
- **9 Make-Up Air Units, Model MSX**
- **17 Vari-Flow Controls**
- **6 Utility Distribution Systems**

An integrated Greenheck variable volume kitchen ventilation system consisting of one exhaust-only double island hood with baffle filters, Model GHEW, one Vari-Flow control system and one make-up air unit, Model MSX, was installed in four classrooms. The variable volume system was specified to help conserve energy between classroom cooking demonstrations, and the double island hoods were selected to optimize functionality and to allow students to participate in cooking demonstrations. The other wall hoods and

single island hoods were installed in a restaurant kitchen, a pastry lab, an innovation lab, a garde manger lab and a theater area to ensure proper ventilation for specialty food preparation. Greenheck's Vari-Flow controls reduce energy costs by more precisely modulating exhaust and supply airflows to match cooking operation demands. Temperature sensors located in the hoods' capture area are directly exposed to quick changes in cooking activity that result in a five-times faster response to cooking load changes and dramatic energy savings. Greenheck's make-up air unit, Model MSX, with its modular design for broad configuration flexibility, was selected to provide make-up air — with electric heat — while supporting the variable volume airflow system. Greenheck's spun aluminum upblast roof



Greenheck spun aluminum upblast roof exhausters exhaust contaminated or grease laden air.

exhausters, Model CUBE, help exhaust contaminated or grease laden exhaust air directly upward and away from the roof, preventing future roof damage. Greenheck FlexConnect™ utility distribution systems, Model UDS, were also installed in the four classrooms. The UDS provides flexible, convenient and safe utility connections and eliminates the need for costly reconfiguration of utility connections when kitchen equipment is rearranged or upgraded.

The Results

- The contractor was able to save valuable time near the end of the project by working with a single source supplier of a completely integrated variable volume kitchen ventilation system that needed to be installed in multiple locations.

Each system fulfilled the building owner's expectations for energy savings, quiet operation and future flexibility. Both energy costs and noise have been kept to a minimum because each variable volume system is easily operated with Vari-Flow controls

that only ramps up and down as needed based on the cooking loads generated underneath the hoods. Classroom spaces are comfortable in winter months thanks to the supplemental electric heat provided through the make-up air units.

