# St. Johns University

## Jamaica, NY, Queens County

### Background

The St. John's University Center and Academic Center (UCAC) is a 100,000 square foot building in Queens, NY. The UCAC includes classroom spaces, student meeting and social spaces, multi-purpose rooms, a cafeteria, and a new boardroom. The building operates 12 hours a day, five days a week for the full year. The design goal was to reduce electrical and thermal energy use by means of energy efficient measures.

Ambrosino, DePinto & Schmieder (ADS) was retained by NYSERDA to evaluate electric energy efficiency opportunities for the new building under the New Construction Program.

### Recommendations

AKF Engineers prepared an energy model that utilized a Whole Building Measure Analysis to examine the interactions among various energy efficiency measures for the entire building. Trane Trace 700 modeling software was used. ADS Engineers conducted a peer review of the model and reviewed AKF Engineers' Technical Study.

Prior to analyzing the individual energy efficient measures, the building was first modeled according to the minimum standards set forth by the requirements of ASHRAE 90.1 Appendix G and NYSERDA modeling requirements.

Among the energy efficiency improvements implemented in the building were:

- District Cooling
- Advanced Lighting Systems
- Demand Control Ventilation
- High-efficiency Displacement HVAC

### Incentives and Results

NYSERDA's incentive of $482,661 helped St. John's University defray a portion of the implementation cost to install the efficiency improvements. In total, St. John's University investment could result in:

- Annual Energy savings of more than 1, 092, 274 kWh
- Peak demand savings of 461 kW in the summer
- Annual Energy Cost savings of almost $244,639
- Simple payback (after incentive) of 7.83 years for project

The UCAC is 48% above ASHRAE 90.1-2004 Appendix G requirements.

***"It is a pleasure to work with the NYSERDA staff and their technical assistance providers. Their professional services and wide breadth of knowledge has helped St. John's University increase its energy efficiency and achieve its carbon emissions reduction goal (PlaNYC – May Bloomberg Challenge) of 30% by the year 2017."***

*-Brij Anand, Vice President Campus Facilities and Services*



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