

# STUDENT ENGINEER TRAINING UNDER THE INDUSTRIAL ASSESSMENT CENTER PROGRAM

## Introduction

Supported by a grant from the U.S. Department of Energy, the Syracuse University IAC is a workforce development program implemented to train the next generation of engineers to become experts in energy efficiency and renewable energy and to assist manufacturing facilities realize energy savings. The DoE has established stringent training requirements for engineering students involved in the IAC. Before a student even steps foot on a manufacturing floor, they undergo a thorough training program, monitored by senior students in the center.

## Energy Recommendations

- Reduce Compressed Air System Line Pressure
- Utilize Synthetic Lubricants
- Utilize Energy Efficient Belts
- Purchase Electric/Natural Gas Supply from Third Party Supplier
- Duct Outside Air to Compressors
- Repair Leaks in Compressed Air System
- Install Occupancy Sensors
- Install Energy Efficient Exit Signs
- Install VFD on Cooling Tower
- Install More Efficient Lighting
- Correct for Power Factor
- Insulate Pipes
- Recover Compressor Waste Heat
- Install Occupancy Sensors on Vending Machines



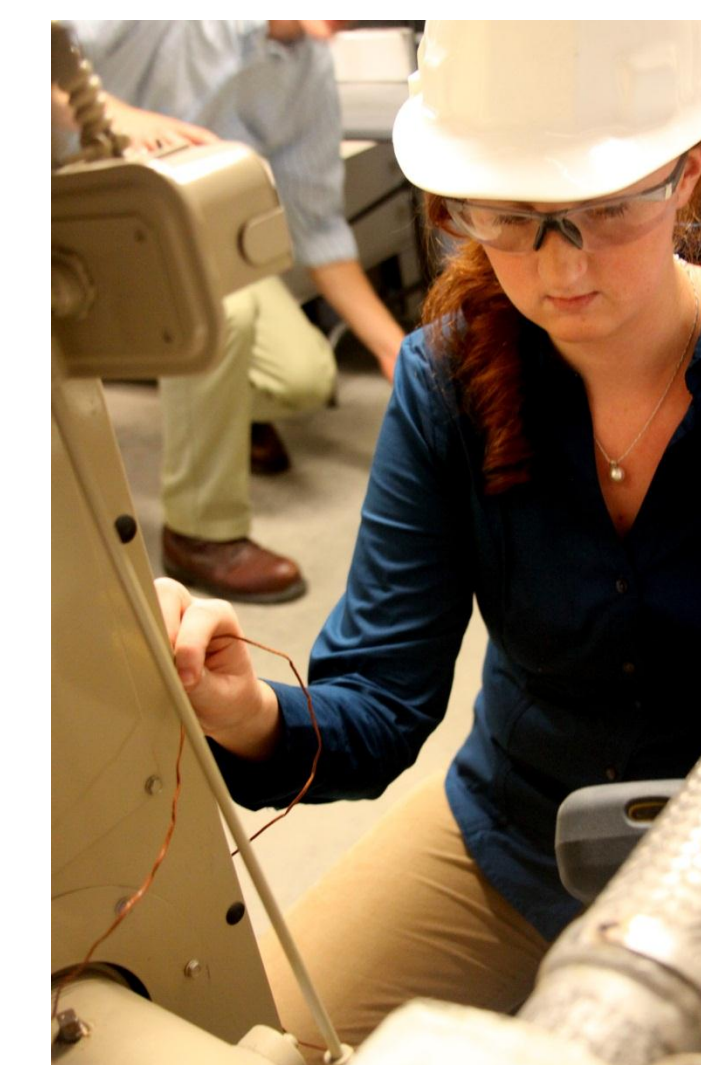
IAC student engineer uses temperature gun



IAC student engineer uses dual anemometer/light meter

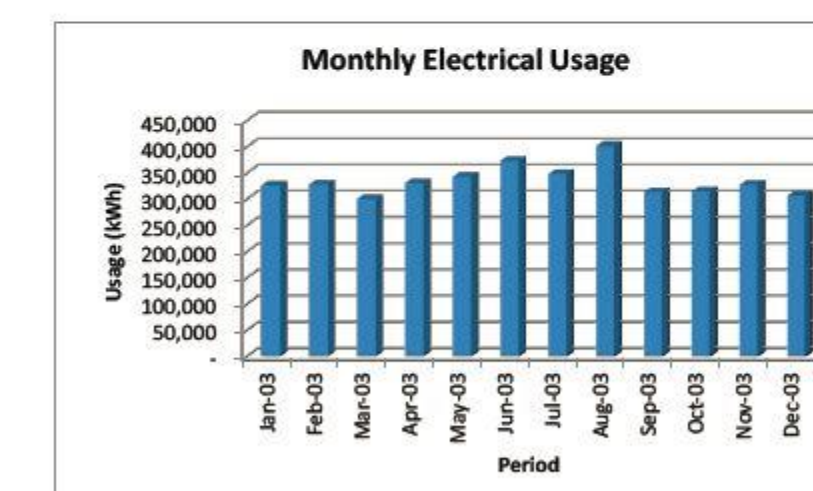
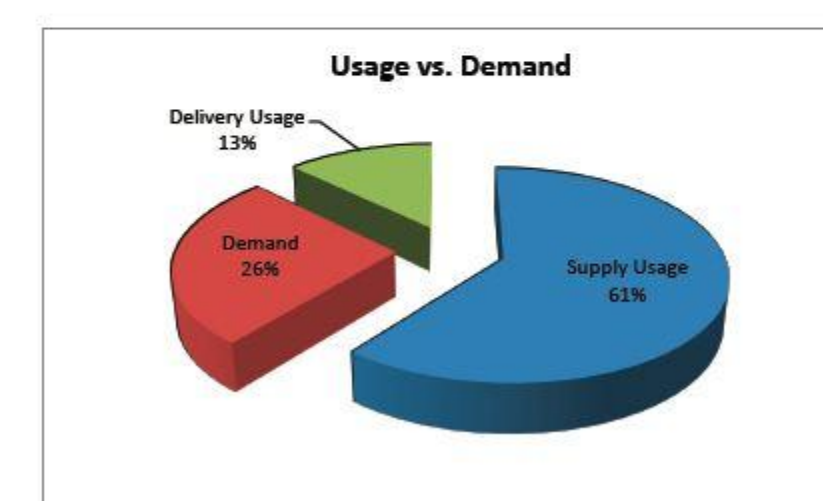
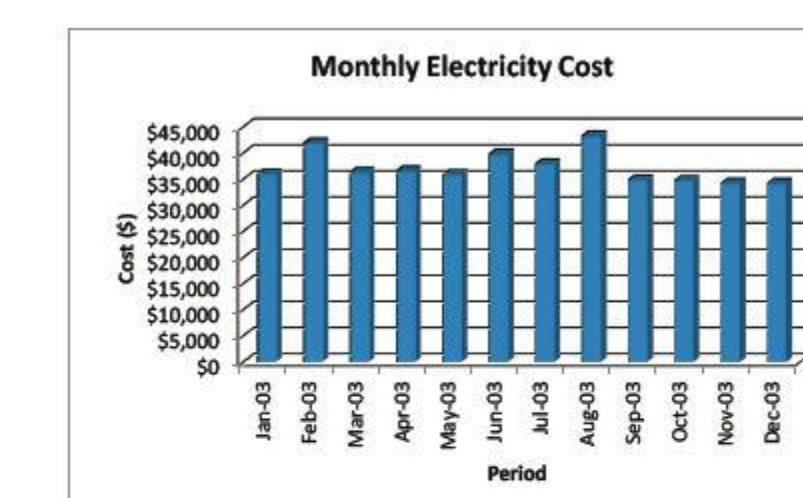
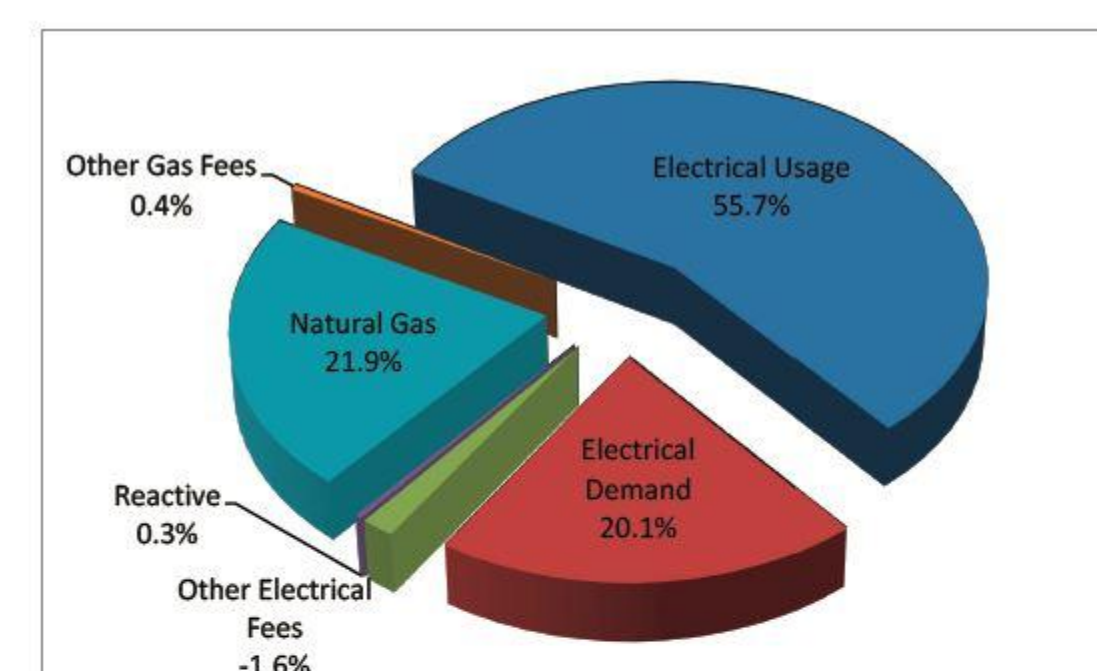


IAC student engineers converse on their first site visit



IAC student engineer uses combustion analyzer

## Billing Analysis



## Contact Us

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## The Process

- **Manuals** - Students spend time reading *Modern Industrial Assessments: A Training Manual* produced by the IAC program field office at Rutgers University as well as an internal training.
- **Billing Analysis** - Using an old set of natural gas and electricity bills, students perform a utility billing analysis to determine annualized usage and demand rates.
- **Compressor Recommendations** - Compressors are found in almost every manufacturing facility therefore students write three common recommendations for a mock facility.
- **Mock Report** - Students write a complete assessment report (80+ pages) using data from a mock facility, Goatastics Plastics.
- **Safety** - All students are required to watch a factory safety video before going on site.
- **Equipment** - Students learn how to use the equipment and instruments utilized for energy .
- **Inactive Site Visit** - Students participate in an energy assessment as observers.
- **Co-Lead** - Under the guidance of an experienced IAC team member, students tackle their first real client.
- **Lead** - Students have completed their training and are ready to lead teams into the field.

## Training from Afar

- Clarkson Students undergo same training as SU students despite geographical distance.
- Computer based training completed at Clarkson and reviewed by experienced SU-IAC team members.
- Weekly conference calls conducted to discuss progress and maintain communication.
- Hands-on training for Clarkson students conducted at Syracuse Center of Excellence during a one day visit.

