

Senior Design Project Description for FALL 2016

Project Title: Air Conditioner Fan Analysis and Simulation (CARR_SIMUL)

Supporter: Carrier (UTC)

Supporter Technical Representative: ASSIGNED

Faculty Mentor: ASSIGNED TBD (check one)

Single Team Dual Team (check one)

Personnel (EN/ET): E, Cp, Cv, 5 M, SE

(Complete if the number of students required is known)

Expected person-hours: (250 per student)

Description of Project:

Carrier manufactures chillers in a 335,000 square foot facility in Charlotte for the air conditioning and refrigeration industry. Air flow through the fans on roof top air conditioning units is critical to the unit performance. This project is to collect actual operational data and develop a model to simulate the air flow through the fan sections.

Initial Project Requirements (e.g. weight, size, etc.):

Fan performance data must be obtained from actual units at the Carrier Charlotte facility. This data will be used in a Dymola model to simulate air flow through the fans. (Carrier personnel will be available to assist with any problems or issues with the software.) The goal is to model multiple fans individually rather than as a lumped model.

Expected Deliverables/Results:

A complete Dymola model that has been verified using actual fan data is to be provided.

List here any specific skills or knowledge needed or suggested (If none please state none):

US Citizens only