ME 492 PROJECT ANNOUNCEMENT

Title: Numerical simulation and performance assessment of a space heating, cooling and providing domestic hot water system with TRNSYS Simulation Program.

Ref: HVAC, modeling and simulation.

Type: Departmental

Vacancy: 1 Student

Duration: 1 Semester

Project Description:

TRNSYS is a complete and extensible simulation environment for the transient simulation of systems, including multi-zone buildings. It is used by engineers and researchers around the world to validate new energy concepts, from simple domestic hot water systems to the design and simulation of buildings and their equipment, including control strategies, occupant behavior, alternative energy systems (wind, solar, photovoltaic, hydrogen systems), etc.

In this study the system which includes heating, cooling and providing domestic hot water will be designed by using TRNSYS Simulation Program. The results will be compared with available design data.

Work Description:

- Determination of the needed components and defined system.
- Calculation of total energy consumption of the system and the amount of heat and work which is supplied / obtained from each component.
- Writing the technical report.

Qualifications and Skills:

- Good knowledge of heat and mass transfer.
- A general maturity with respect to the departmental courses.
- Academic research and report writing skills.