Design Brief of Course Project
"Heating, ventilation, and air-conditioning systems for a primary school located in Ottawa (Ontario, Canada)"

You can complete the project using either SI (Metric) or IP (Inch-Pound) units. Use appropriate Excel Modules and drawings with an extension "SI units" or "IP units" respectively.

Drafting in AutoCAD

A set of drawings in dwg-format located on the Resources page include: building floor plan, occupancy and envelope details, the HVAC design concept, templates of HVAC system schematics, and blank equipment schedules. Use AutoCAD 2000 or higher version.

For the drafting purposes you will need the basic skills in 2D AutoCAD.

Use drawings M-1 to M-4 located in the Model Space tab to design and draft the HVAC systems.

Use the ground floor plan, occupancy schedule, HVAC design concept and the envelope details on drawings M-1 and M-2 to calculate the building loads and to size the system components, ductwork and piping.

Draft the equipment, ductwork and piping on the floor plan of drawing M-1. Draft ducts in single lines. To draft the ductwork and piping fittings, use the templates listed in the Legend section of drawing M-1. Place the air-handling unit and the heating plant in the mechanical room. Place the rooftop unit serving the gym on roof.

Complete the heating plant schematic on drawing M-3.

Complete the equipment schedules on drawing M-4.

View the completed printable drawings in the Paper Space tabs.

Save the completed drawings with a name indicating your name and license number.

Email the completed drawings in dwg-format to your online tutor (optional) for review.

Manual Drafting

A set of drawings outlined in the section above are available in pdf-format on the same Resources page.
Print out the drawings prepared in SI or IP units using paper size of 11"x17" (266x393mm).
Manually draft the HVAC systems and complete the equipment schedules.
Scan and email the completed drawings to your online tutor (optional) for review.