

# Abstract

## Ventilation system design for educational facilities

Indoor air quality is believed to have a great effect on students' and teachers' performance in educational facilities decreasing their ability of concentration, memorizing, solving logical tasks required in classrooms. For maintaining acceptable indoor air quality levels more ventilation rates are required for dilution of contaminants concentration indoors, which means more energy consumed for operation of mechanical ventilation systems. Carbon dioxide (CO<sub>2</sub>) Concentrations are often used as a surrogate of the indoor air quality inside classrooms giving an indication for the rate of ventilation required of outside supply air. Higher indoor CO<sub>2</sub> concentrations mean decreased performance for students and lecturers. In this paper computer software is developed for determination of ventilation rates required to maintain carbon dioxide concentration within the recommended levels by standards for best students' performance; by enhancing indoor air quality.