Mine Ventilation Design

By Agus Sasmito

Out of Class

- Individual Work
- Work in Groups
- Whole Class
- Research
- Writing
- Problem Solving
- Discussion
- Peer-Review
- Present
- Instruction

In Class (Instructor)

In Class (Students)

Begin Here.

Students get into groups of 6. These will be their groups for the remainder of the project.

Instructor assigns a problem sheet to each group. The problem is the same for each group, but the values for the parameters involved are different.

Groups solve the problem on their worksheet.

The **instructor** takes up the problem sheet with the class, drawing connections between the concepts and calculations involved in answering the problem sheet

Refer to "Design Project Warm-Up" PDF for more details

Throughout the semester, **groups** complete the following Mini Designs (MD):

- MD 1 - Manual Vent Desgin
- MD 2 - Computer Vent Design
- MD 3 - Vent Heating/Cooling

Refer to "Mini Design 1-3" PDF for more details

01

Repeat with each mini design

Groups have one day to finalize their mini design report and submit it.

Instrucor:

- Describes the final project to the class
- Assigns 1 of 3 project topics to each group

Refer to "Final Project" pdf for more details

Repeat between each class

Groups:

- Research and gather necessary data for their final project
- Build a mine ventilation design together

Students continue to work on their group project.

On the 5th project day, the **instructor** meets with each group to discuss their progress.

Groups finalize and submit their projects.

Groups finalize and submit their projects.

Groups peerreview another group's project design report.

02

Groups present to the other groups with the same project topic.

Instructor acts as a mediator during presentations and discussion.

Groups ask questions and critique the other groups' projects.

03