

In 2<sup>nd</sup> semester beginning drafting, the students design and draw a 1100 sq ft. cabin. By now they have used AutoCad2000 for nearly 16 weeks and are ready for some designing instead of reproducing images out of the workbook.

We start out by going over all handouts given to them. The new architectural terms will become part of their newly acquired computer vocabulary. This process takes 2 class periods and gets them ready for the design phase. They're shown examples of cabin plans and then are given graph paper and a review of "scale". We go over the required rooms, areas, appliances, window/door sizes, stairs and wall thickness. The job now is to come up with a sound, practical design that meets all the requirements of the assignment. The first drawing is a bubble drawing, which gets approved, and then a graph paper drawing, which is drawn to scale. This process takes about 4 days and then we review the new commands needed for the architectural assignment.

The assignment includes: floor plans, plot plan, wall section, elevations and an interior perspective of a room. Reviews are given before each new plan assignment and related information is put on the board to copy into their notes for reference. We go over building codes too and these must be factored into their design. Each drawing is evaluated separately for accuracy, following directions, proper computer applications (layers, linetypes, insertions, etc.), and time management. When the project's completed, the entire set is made into a plan set, with a cover sheet and bound on the edge.

First semester, 2<sup>nd</sup> year drafting students do a project totally different to anything they've done before. They choose groups of 3 or 4 and begin a task that will take them 7-8 weeks to complete. We call it the "Highway" project and it's quite involved.

The project involves: teamwork (each team selects a foreman), problems solving, time lines, research, graphing, digitizing, printing, public speaking, self and group evaluations, calculations, and model building. A panel of adults is invited to view the final presentations of the teams and evaluate them. We've had mayors, state representatives, state senators, county executives, superintendents, school board members, principals, counsellors, and parents view the groups.

The project is not an engineering project; it is a design project. We do not go into the science of proper engineering, but rather focus on the teamwork and meeting the goals of the assignment. The project includes designing a route to cross a hypothetical piece of ground from point "A" to "B". In the middle of the area is a river that will also need to be crossed; thus a bridge is needed. There are restrictions on where things can be built too. The grade cannot be over 10% at any point and there's one canyon that cannot be built in, due to potential flooding. The cost of: equipment, materials, wages, excavation, profit, and sani-cans to paint, is all given to the teams to use in their calculations. Drawings are required for: the route, excavation cuts, road and bridge sections, road and bridge profiles, and graphs showing comparisons of costs. A scale model of the bridge design is also needed. Students can decide the format in which to give their presentations. Hold up their work and present, power-point, over-heads, or any combination are acceptable options. Each team member must give a portion of the presentation.

Evaluation is done by 3 methods: group presentations, team member evaluations of each other, and teacher grading of the drawings and bridge. All scores are averaged together and a final grade is given. All evaluation paper work is returned to the groups.

Along with the above projects, we do traditional machine part drawings too.

