

You are to design a hand-held, electric (110 AC) power tool to cut/drill square holes using an oscillating motion (motion similar to the multi-tool from the second design project). It is desired that the tool be as compact as possible and capable of machining square through-holes in a variety of materials including side-grain wood (in other words not end-grain), MDF (medium density fiberboard) and ceramic (such as floor tile). The tool must be able to cut through material at least 1 inch thick with hole sizes of 1/2, 3/4, 1 and 1-1/4 inch width. Additional functionality of the tool is a plus. For instance, providing a provision for the tool to produce non-through holes, the ability to accommodate additional cutting/sanding/polishing attachments or other functionalities is encouraged. The product is to be produced in the USA for under \$300 and 500,000 units will be produced. You do not have to design the carrying case or other packaging.

Interim design review March 24, 26 and 29

Poster due date Friday, April 16

Report due date Monday, April 19

Poster session Wednesday, April 21

Oral presentations Thursday and Friday, April 22 and 23