

Ozarks Technical Community College

Moon Buggy Madness

OTC Uses Mastercam For NASA's Great Moon Buggy Competition

"The small but avid group of students in the Springfield, Missouri college's manufacturing technology program learned of the annual event at NASA's Marshall Flight Center in Huntsville, AL, where the Lunar Roving Vehicle was designed and developed. With the encouragement of machining instructor Scott Beshears and drafting instructor Richard Faber, OTC students and project team leader Pat Clawson sent for information and entry materials. Confirmation and vehicle specs arrived just three weeks before the April 19th competition!"

"We virtually never have to do a modification of a toolpath that comes out of Mastercam"

— Scott Beshears

Instructor
Ozarks Tech C.C.
Springfield, Missouri

The team planned on a 4' long triangular truss chassis of welded aluminum tubing for central support of a 10-speed bicycle gear train, four double-arm wheel assemblies, laterally extending tube truss seat and foot supports, the steering mechanism, and the simulated instrumentation and equipment NASA required. Pat Clawson began to draw the basic design in AutoCAD and transferred the geometry files directly into Mastercam to generate the toolpaths and NC-code to machine the parts.

Checked with solid model verification, the results were perfect. "We virtually never have to do a modification of a toolpath that comes out of Mastercam," Mr. Beshears notes. "This type of simulated verification helps us find errors and fix them before we cut parts. This increase in productivity allows us the chance to finish projects under tight time restraints." Beshears also comments about the fact that they own 47 seats of Mastercam. "This tells you how valuable we find Mastercam for real-world training." David and Samantha were 18th in the lineup and scored 30.8 seconds for setup and 52 minutes completing the course. The combined time won them 8th place in a field of 22 entries, most with more experience and greater time for design, construction, and testing.

What's next for OTC? They are already redesigning their entry for next year.



Mastercam.