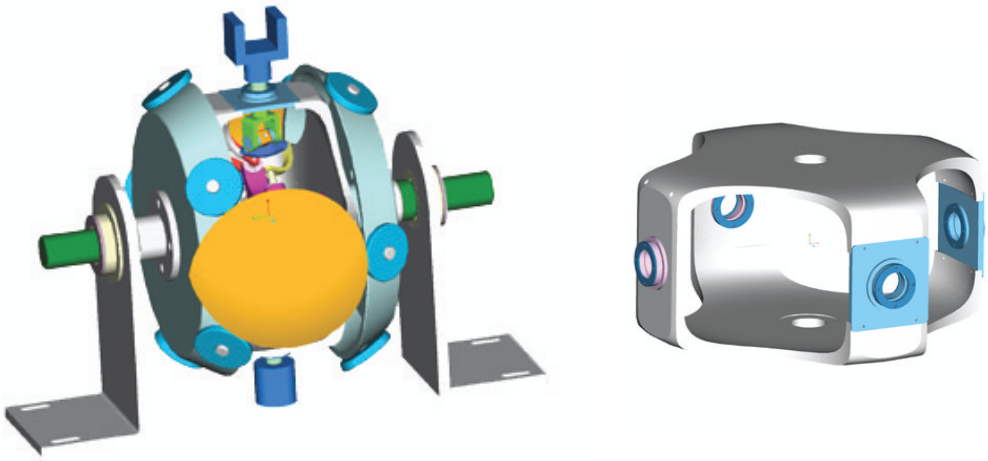
MECH 577 Optimum Design

Course Announcement



The design process is, by its nature, open-ended, but once a candidate solution has been selected, the design problem becomes tractable with the tools of optimization. To help the engineer make the right decisions, optimization methods suitable to the most common problems encountered in engineering design will be studied and applied in this course. The course aims at developing skills in formulating a design task as an optimization problem. Skills include, additionally, the mastering of the methods of solution and interpreting the solutions in a design context. Issues such as cost, space-availability, and functionality will be studied. The final mark is computed based on: (a) three projects (75%) and (b) a final open-book quiz (25%), given the last day of lectures. A typical project will consist of optimizing the shape of the cover of the mechanical system shown in the above figure. The current shape has not been tested for stress distribution, the optimum shape should aim at minimizing the maximum von Mises stress, while maintaining convexity.

Further information is available at

`http://www.mcgill.ca/cden/courses/`

You may also direct your queries to Prof. J. Angeles, Rm. 452 MD: `angeles@cim.mcgill.ca`
Important Notice: Current schedule in the McGill Timetable conflicts with ECSE 501 Linear Systems. Conflict is to be resolved in the first day of lectures, **Thursday September 2nd at 10:05 in MC13**, in a 15-minute vote. A time slot will be chosen in common agreement with all students present.