Inspiring the next generation of engineers

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The *School of Aerospace, Mechanical and Manufacturing Engineering* (SAMME) at *RMIT University* offers two distinct undergraduate courses focussing on optimisation: MIET2004 Mechanical Design 3 and AERO2403 Optimum Structures.

In MIET2004 students work in groups to design, manufacture and test a shock absorber, applying principles of optimisation and robust design to achieve desired design outcomes. Each group has a unique set of high and low velocity damping characteristic that they must work towards using a structured analytical and numerical approach.

In AERO2403 students are taught a broad set of optimisation algorithms suitable for single objectives, multiple objectives, parametric and shape change (high number of design variables) for linear static Finite Element designs. In the major assignment students must create a Finite Element model and optimise a realistic component assembly for specific design criteria such as weight and strength.

Further, final year engineering students are required to complete a major, year-long project. Interesting projects which have use optimisation approaches are presented.