



The  
University  
Of  
Sheffield.

Department  
Of  
Mechanical  
Engineering.

# MSc(Res) Advanced Mechanical Engineering



Our MSc in Advanced Mechanical Engineering is designed to enhance your understanding of mechanical engineering at an advanced level, and combines fundamental engineering knowledge with the latest technological developments.

This is the most flexible of all our Masters programmes. We offer a wide range of advanced engineering modules, allowing you to tailor your studies to your own needs and interests, and graduates from this course go on in work in many areas within mechanical engineering.

As well as taught modules you'll also undertake an individual research project, worth more than half of the overall course credits, giving you the opportunity to complete an in-depth investigation on a

challenging and relevant topic. This substantial project provides practical experience of research, complemented by training in research methods and management, helping to prepare you for a career in industry or further research at PhD level.





## Example Project

### Sweta Kadam – Modelling the Deformation and Fracture of Automotive Advanced High Strength Steels

“Dual Phase Steels are well known for their good strength to weight ratio and good formability. Due to their outstanding properties they are widely used in automotive industry. The main objective of this project is to study the deformation and fracture behaviour of advanced high strength Dual Phase Steels used in car body panels.

A Dual Phase Steel specimen provided by Tata Steel Europe (formerly CORUS) will be examined for the deformation and damage initiation finally leading to the fracture. A finite element model, capable of predicting the stress-strain curve up to fracture, will be developed in ABAQUS and the experimental results will be used to validate those obtained from the simulation.”

## Typical Modules

The MSc offers modules in both fundamental and applied engineering, including:

- Experimental Stress Analysis
- Computational Fluid Dynamics
- Structural Vibrations
- Tribology of Machine Elements
- Aerodynamic Design
- Reciprocating Engines
- Fundamental Biomechanics



## How to Apply

For more information on entry requirements and how to apply please visit our website: [www.sheffield.ac.uk/mecheng/prospectivemsc](http://www.sheffield.ac.uk/mecheng/prospectivemsc)

For further advice and guidance on applying please email the postgraduate admissions department: [me-pgadmit@sheffield.ac.uk](mailto:me-pgadmit@sheffield.ac.uk)