

[illegible]

- ▶ What is it?
- ▶ Who does it involve?
- ▶ How do you do it?

SYSTEMS ENGINEERING...

- ... A discipline that concentrates on the design and application of the whole system as distinct from its parts.
- ... An interdisciplinary approach and means to enable the realisation of successful systems (INCOSE)



WHAT IS SYSTEMS ENGINEERING?

REFERENCES: INCOSE <http://www.incose.org/aboutSE/WhatIsSE>



A word cloud featuring various terms associated with systems engineering. The words are arranged in a cluster, with 'Interdisciplinary' being the largest and most central. Other prominent words include 'Process', 'needs', 'functions', 'results', 'parts', 'elements', 'Performance', and 'produce'. The colors of the words range from light yellow to dark purple.

functions results
Process needs
Interdisciplinary parts
elements
Performance
produce

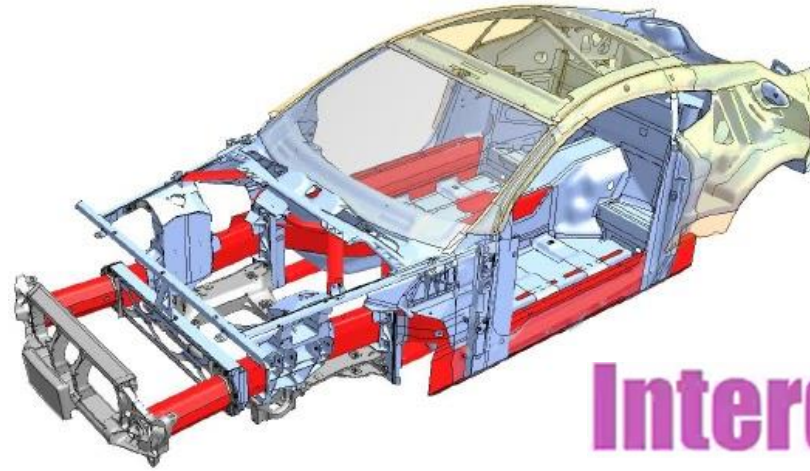
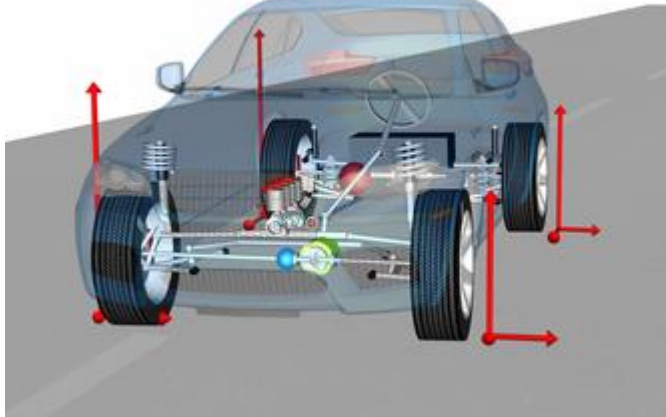
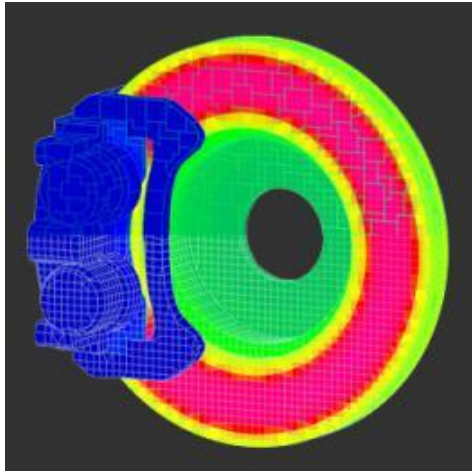
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WHOS INVOLVED IN REALISING ONE OF THESE?





Interdisciplinary



NEEDS vs WANTS

TIME

REQUIREMENTS

DESIGN

Breaking systems
down into parts

Tier 0

Vehicle

Tier 1

Body

Drive

Exterior

Interior

Structure

Train

Tier 2

Power
Plant

Transmission

functions

parts

elements

Process

TIME



INTEGRATION



functions
parts elements
Process



**INTEGRATION
& TEST**



functions **elements**
parts **Process**

**CUSTOMER
ACCEPTANCE**

UTILISATION



functions

parts

elements
Process

- ▶ What is it?
- ▶ Who does it involve?
- ▶ How do you do it?

SYSTEMS ENGINEERING...

L6 – Systems Engineering

M6X00947

Lecturers

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Assessment

- Coursework 50%
- Exam 50%