Tomorrow's Engineers

Presentation

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What is engineering?

Engineering is everywhere…

Consider some things you use in your everyday life: Buildings, roads and bridges, vehicles (cars, planes and boats), computers and other electronic devices.

From everyday things like your space, national security, clothes to medicine and renewable energy.

… to tackling climate change, providing clean drinking water or ensuring sustainable food supplies.

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Engineering Combines the fields of :-

- **Maths**
- **Science**

Engineers are Problem Solvers.

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This would have happen if Aeroplane was not Designed.

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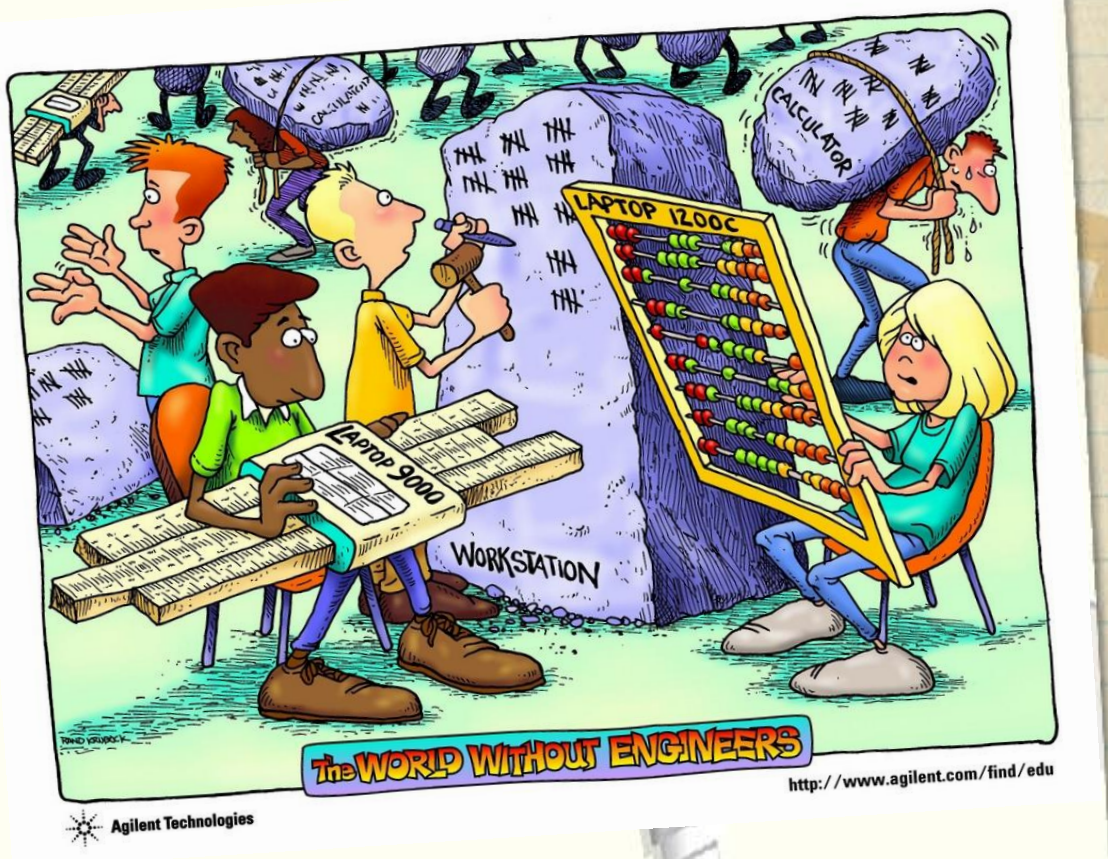
Big mathematical Calculations would not have been so easy.



What is Civil Engineering?

Design

Quality

Maintenance

Construction

Planning

Earliest Civil Engineer known by name is Imhotep

He probably designed and supervised the construction of the Pyramid of Djoser at Saqqara in Egypt around 2630-2611 BC.

Imhotep

Pyramid of Djoser

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That's why I recommend Civil Engineering…

What is Structural Engineering?

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Structural Engineering includes Engineering design and analysis.

Design of Components of structure like Beams, Columns, Slabs etc.

Structure Engineers ensure that buildings and bridges are built to be strong enough and stable enough to resist all external loads(example:- gravity, Wind, Snow, Rain, Earthquake, Earth pressure ,temp. and traffic).

What is Building?

Building is a man-made structure with a roof and walls.

- It comes in variety of shapes, sizes and functions according to the requirements.
- There is evidence of home-building from around 18000 BC.

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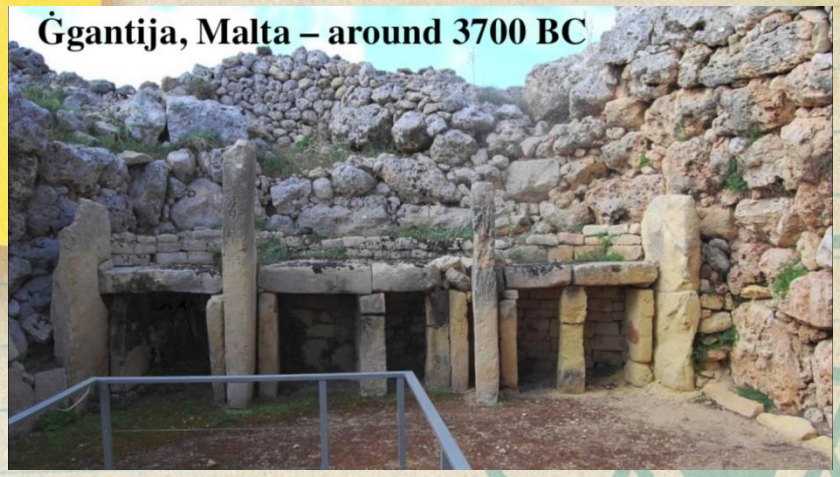


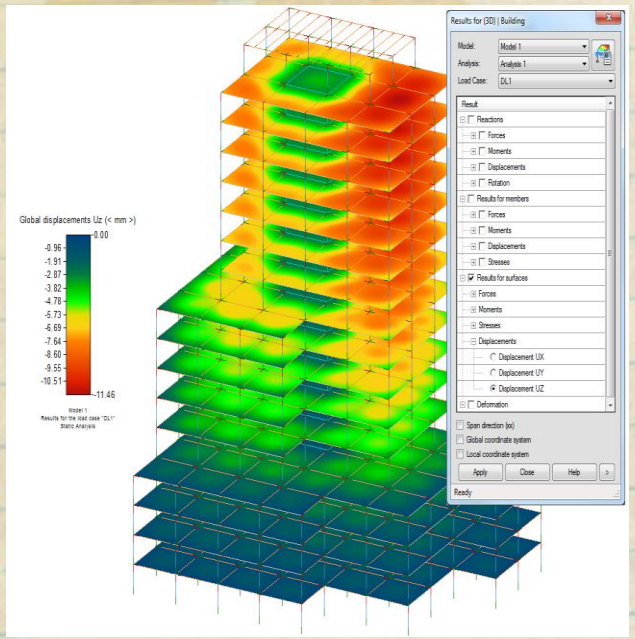
What is Analysis?

The determination of behaviour of structure such as buildings,bridges,dams,towers,retaining walls,truss and Foundations.

Structural engineers analyse the stresses, Bending moments, Shear Forces, Strain and Deflection or Deformation with the help of computer software like STAAD Pro. V8i,

Staad Foundation, Etabs, Sap, Robot Structure Analysis etc.

Analysing the Structure



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What is Design?

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The Design process involves multiple Consideration which are :-

- Safety
- Serviceability
- Asthetics
- Environmental
- Economy

Hope you like our presentation

Thank You

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