

Professor Robert F. SINGER

2. Lectures on light materials and structures for transportation for students from Faculty of Materials Science and Engineering WUT

Light weight materials - competing approaches, basics of alloy selection

Competing systems (Mg, Al, Ti, polymers, fibre reinforcement, dispersion strengthening), figures of merit in light weight construction, Ashby maps, driving forces (government regulation ...).

Light weight materials - recent progress in technical development

Injection moulding of Mg, integral foam moulding, smart materials by die casting, fibre reinforcement in polymers and metals through preform infiltration, Temconex technology, freeform fabrication.

Each lecture lasting 2 * 45 minutes.

Followed by 45 discussion and a short test for students.

Practical classes on light materials and structures for transportation for students from Faculty of Materials Science and Engineering WUT

Light weight materials - competing approaches, basics of alloy selection

Competing systems (Mg, Al, Ti, polymers, fibre reinforcement, dispersion strengthening), figures of merit in light weight construction, Ashby maps, driving forces (government regulation ...).

Light weight materials - recent progress in technical development

Injection moulding of Mg, integral foam moulding, smart materials by die casting, fibre reinforcement in polymers and metals through preform infiltration, Temconex technology, freeform fabrication

Each practical classes lasting 4 * 45 minutes.

Followed by 45 discussion and a short test for students.

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