
1st breakout report from red group

1 message

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1st breakout group:

A) Graduate attributes that industry needs: new grads & specialists MSc/PhD

1. K: not sufficient practical experience in uni
2. K/G: safety
3. M: Coming; colloidal chemistry; material processing; blending of systems; kinetics: rate reactions; generalising around statistics/PBM, DoE, data analysis; fluid rheology/transport relate to solids; mechanical properties; analytical techniques: concepts, understanding practical aspects; modelling/experiments: granulation and other unit operations;
4. Bachelor vs MSc/PhD:

1st degree – doing core vs optional courses

blending of systems

statistics/DoE

kinetics

thermodynamics

rate of reaction/transport/diffusion

material properties: physical/mechanical/chemical (bulk vs surface) - distribution

lab based characterisation

introduction to unit operations

particle formation fundamentals: crystallisation etc

Msc/PhD

Advanced techniques – modelling, measurement

Applying relevant science & mathematics through engineering analysis to practical problems

5. Constraint: Accreditation of degrees by professional bodies

B) Current graduates have these skills

Largely no with varying elements being taught

Taught elements diffused through various existing courses e.g. reaction engineering/packed bed

C) Have skills improved in the last 10/25 years;

Not a great deal esp. at 1st degree level, advanced level degrees YES

Also greater awareness in companies of the importance of particle technology

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