Overview
Powder properties have a major impact on formulation, development and manufacturing of Oral Solid Dosage forms. They also play an important role in meeting the requirements of Quality by Design for OSDs.

In this course we examine powder properties and their role in these important processes, so that attendees can understand:
- The influence of drug substance properties on formulation development
- how and why particular tablet components are selected and what impact they have on powder properties and tablet behaviour
- Manufacturing method selection and the importance of powder flow
- Mechanisms of powder mixing and segregation
- Powder properties, Critical Quality and Material Attributes, and the Product Control Strategy
- Effects of blending behaviour and scale on Critical Process Parameters
- The relationship between input material properties and tablet properties

Proper integration of these elements is essential to achieve “Quality by Design” because data from each phase is used to control the next step in the development process. By achieving proper integration based on sound scientific principles based on powder technology, many development and production problems can be avoided, and formulation robustness can be improved. The course includes case studies of tablet formulation development and a detailed step by step analysis of all elements of the tablet manufacturing process.

By the end of the course the attendees will be able to recognise key powder properties which affect process performance, and make improved judgements about how to improve processes.
**PROGRAMME**

**Day 1 – Morning**
- Introductions. Outline of course content
- What are powders?
- Powder characterisation – Particle size, powder flow
- Specific surface area, porosity

**Lunch**

**Day 1 – Afternoon**
- Powder mixing and blend uniformity testing#
- Blend uniformity measurement
- Segregation. What is it and how to prevent it

**Day 2 – Morning**
- Review
- Process compatibility testing
- Electrostatics and powder behaviour
- Effect of moisture on the properties of theophylline
- Tablets and what goes into them

**Lunch**

**Day 2 – Afternoon**
- Compaction properties of powders
- Tablet manufacturing process selection
- Manufacturing Control of Tablets
- Review and workshop.

*Practical sessions at Yeoman House, London SE20 7TS (Delegates will be transported from Hotel)*

**Day 3 – Morning**
**Theme - Putting the theory into practice**
Review of Days 2 & 3 learning points

Impact of material properties on bulk powder behaviour
- Flow
- Bulk density
- Compressibility
- Particle size and shape

Wet Granulation and drying practical
Dry Granulation practical
Lubrication and compression practical
Practical - Direct compression products
Impact of excipient selection, grades, and processing on critical tablet quality attributes—
- Compressibility
- Friability
- Disintegration

Direct compression practical
Impact of excipient selection, grades, and processing on critical tablet quality attributes—
- Compressibility
- Friability
- Disintegration
- Lubrication
Course Speaker:

Dr Michael Gamlen
Michael is Managing Director of Gamletting Tableting Ltd. Dr Michael Gamlen has over 30 years experience of tablet development. Awarded a First Class Honours degree in Pharmacy, specialising in Pharmaceutical Engineering, he studied for a PhD at Nottingham University. He was Head of Tablet Development at the The Wellcome Foundation for 15 years, and has since worked for Vanguard Medica Ltd and as a consultant. He specialises in managing product development, formulation, tablet and process development studies.

Michael has been teaching professional tableting courses for many years and his courses are

Venues:
Days 1 & 2
Croydon Park Hotel, 7 Altyre Road Croydon Greater London CR9 5AA
Day 3 (Practical day in the lab)
Yeoman House 61-63 Croydon Road, Penge SE20 7TS
(Delegates will be accompanied from the Croydon Park Hotel to Yeoman House)

Accommodation:
Croydon Park Hotel, 7 Altyre Road Croydon Greater London CR9 5AA
Website: http://www.croydonparkhotel.com/
Alternatively if you wish to stay in Central London the venues are easily accessible by train from London Victoria or London Bridge

Accommodation is not included in the fees, please make your own arrangements, if you have any questions please email: info@pharma-training-courses.com

www.pharma-training-courses.com
**REGISTRATION DETAILS:**
Powder Technology for Pharmaceutical Development and Manufacturing:
*Remember to book early—numbers are limited*

25, 26 & 27 September 2019—Croydon, Greater London

**Early-bird fee:** 3 day course £1593.00 (+ VAT £318.60 if applicable, see notes on VAT)
*if booked and paid by 31 July 2019*

**Full Fee:** 3 day course £1770.00 (+ VAT £354.00 if applicable, see notes on VAT)

**VAT NOTES:**

**UK:** Under UK law all UK-based applications are subject to VAT at the prevailing rate however most UK VAT registered companies/organisations can reclaim this tax.

**EU:** With effect from 1 January 2011 applications from delegates whose companies are based in EU countries will not be subject to VAT PROVIDED THAT valid VAT ID details are provided at the time of booking, otherwise VAT will be charged.

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*Reduced fees available for multiple bookings:*

*Contact Judy Callanan to discuss a bulk booking*
*Phone: ++44 20 8133 2605  Email: info@pharma-training-courses.com*

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Course fee includes all course material, refreshments and lunch, accommodation is not included, details of nearby hotels are available on our website.

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