

Thursday, 24 October 2019 9:00 – 17:30

9:00	Welcome
9:15	Overview and Introduction into Pre-filled Syringe Market <ul style="list-style-type: none"> • Overview & Trends • Stakeholders • User's perspective
10:15	Technical Aspects <ul style="list-style-type: none"> • Syringe • Stopper • Plunger • Needle • Needle shield • Autoinjector • Regulatory guidelines and technical standards: EU / US / ISO / ...
11:15	Coffee Break
11:45	Overview and Introduction into Drug-syringe Interactions <ul style="list-style-type: none"> • Aggregation • Degeneration • Oxidation • Viscosity • Bubbles
12:15	Lunch Break
13:15	Overview and Introduction to Manufacturing Process of Pre-filled Syringes <ul style="list-style-type: none"> • Barrel forming • Washing • Siliconization • Sterilization • Regulatory guidelines and technical standards: EU / US / ISO / ...
14:00	Fill and Finish <ul style="list-style-type: none"> • Filling • Stoppering • Assembly • Technical Standards: ISO
14:45	Hands-on Session 1
15:45	Coffee Break
16:15	Hands-on Session 1 (cont.)
17:15	Q & A
17:30	End of Day 1

Friday, 25 October 2019 9:00 – 15:45

9:00	Recap Day 1
9:30	The Syringe (Body) - Example Specification <ul style="list-style-type: none"> • Materials (glass, polymer) • Shape • Cone • Diameter • Mechanical properties • Chemical Properties • Siliconization • Impact of different drug properties • Dual-chamber syringe • Needle shield, tip cap • Nest, tub • Integrated needles, luer lock adapter, cone types • Back stops, rods • Regulatory guidelines and technical standards: EU / US / ISO / ...
10:15	Coffee Break
10:45	Plunger Stopper, Needle Shields, Tip Caps <ul style="list-style-type: none"> • Materials • Physical properties • Chemical properties • Washing • Siliconization • Impact of different drug properties • Syringe system functionality • Regulatory guidelines and technical standards: EU / US / ISO / ...
11:45	Manufacturing Aspects Regarding Filling, Finishing and Assembly <ul style="list-style-type: none"> • Bulk versus nested • Nest sizes • Standard processing for Rod Insertion and Labelling • Handling of syringes considering glass to glass vs. no glass to glass contact
12:30	Lunch Break
13:30	Assembly of Syringes and Administration Devices <ul style="list-style-type: none"> • Pen Injectors • Safety Systems • Autoinjectors • Manual versus automated
	Design Independent Assembly
14:30	Hands-on Session 2
15:30	Q & A
15:45	End of Course