Pharmaceutical Medical Gas Testing – Five day course
Monday 3 – Friday 7 February 2020

Monday 3 February 2020
09:00 Registration and coffee
09:30 Course and module introduction
   Objectives, work of the medical gas sub-group and medical gas policy
   Theresa Hughes, Course Director and QC (MGPS) and QA Specialist (NHS) Reading
10:20 Introduction to medical gases and their uses
   Tim Sizer, Regional QA Specialist NHS South West
12:00 Introduction to HTM 02-01 (2006)
   Key principles and its application in practice
   Richard Maycock, Medical Engineering Systems Limited
12:30 Lunch
13:00 Key MGPS features
   Oxygen VIE and PCC
   Medical and surgical air plant
   Vacuum and AGSS plant, Manifolds
   Richard Maycock, Medical Engineering Systems Limited
13:45 Key MGPS features continued
   Valves, LVAs and AVSUs
   Central and local alarms
   Pendants and beams, terminal units and NISTs
   Richard Maycock, Medical Engineering Systems Limited
14:30 Refreshment break
14:45 On-site practical sessions
   3 parallel groups in rotation (30 minute sessions)
   Explanation of how they work and issues relating to them:
   VIE - Richard Maycock
   Medical air compressor - Adrian Fairbrother, QC (MGPS)
   Manifold - Ed Doyle QC (MGPS) Altec (Analytical and Technical) Services Ltd
16:15 Manufacture of medical gases and the role of the QP
   Peter Henrys, BOC Healthcare
17:00 End of day one
19:00 Informal meet and greet drinks in Copthorne hotel bar (optional)

Tuesday 4 February 2020
08:50 Gas safety in relation to MGPS
   Theresa Hughes
09:50 Aspects of MGPS engineering (part 1):
   Configuration of central sources of supply, emergency reserve supplies and mobile
   emergency backfeed manifolds provision
   Richard Maycock
10:35 Refreshment break
10:50 Aspects of MGPS engineering (part 2):
   Installation requirements of the distribution pipeline, monitoring systems and terminal unit
   provision
   Richard Maycock
11:50 On-site practical sessions
   2 parallel groups in rotation (30 minute sessions)
   Demonstration of AP tests – Richard Maycock
   Demonstration of pipe jointing – Midland Medical staff
12:50 Lunch
Tuesday 4 February 2020 continued
13:20  Tests that the AP carries out or witnesses. Examples of where tests or observations/PPM have identified problems
    Paul Jones, QC (MGPS) and Consultant (Medical Gases)
14:20  Introduction to the role of QC MGPS
    In relation to HTM 0201
    Theresa Hughes
15:20  Workshop sessions 3 parallel groups in rotation (40 minute sessions)
    Refreshment break to be taken during workshops
    Terminal units function, identity and operational problems
    Andrew Sully, QC (MGPS) Cardiff and Vale NHS Trust
    AVSUs, LVA’s and alarms operation and faults
    Richard Skidmore, Head of Quality, Barts Health NHS Trust
    Cylinder Management identification, storage, tracking, and connections
    Paul Jones, QC (MGPS) and Consultant (Medical Gases)
17:30  End of day two
19:00  Course dinner – Copthorne hotel

Wednesday 5 February 2020
08:50  Moisture in medical gas systems
    Keith Butler, Alpha Moisture Systems
09:50  Introduction to ‘permit to work’ system and B forms
    Richard Maycock
10:35  Workshop ‘permit to work’ system
    Role-play workshop
    Richard Maycock
    Refreshment break to be taken during workshops
11:45  Introduction to pharmaceutical testing of gases
    How medical gases are tested and how instrumentation does its job
    Adrian Fairbrother
12:20  Lunch
12:50  Workshop sessions 4 parallel groups in rotation (40 minute sessions)
    Refreshment break to be taken during workshops
    Oxygen, identity and purity methods
    Andrew Sully, QC (MGPS) Cardiff and Vale NHS Trust
    Nitrous oxide / Entonox, identity and purity methods
    Richard Skidmore, Head of Quality, Barts Health NHS Trust
    Medical, surgical and dental air, identity and purity methods including moisture, particulates and oil
    Richard Sutherland, QC (MGPS) Omicron Ltd
    Surgical CO₂ and Heliox – uses and ID specialist gases
    Paul Jones, QC (MGPS) and Consultant (Medical Gases)
17:00  End of day three

Thursday 6 February 2020
08:50  The Basic Tool Kit
    Theresa Hughes
09:10  Instrument calibration
    Adrian Fairbrother, QC (MGPS)
09:35  Calibration gases
    Adrian Fairbrother
10:00  Refreshment break
10:15  Calibration of Instruments – demonstration/workshop
    Adrian Fairbrother and Theresa Hughes
Thursday 6 February 2020 continued..

11:00 Common problems that occur with equipment
Richard Sutherland, QC (MGPS) Omicron Ltd
11:45 Measurements of particulates
Paul Jones, QC (MGPS) and Consultant (Medical Gases)
12:30 Lunch
13:00 Problem solving workshop (5 stations)
Workbook
45 minute for test and report writing
Refreshment break to be taken during workshops
Testing manifold, Richard Sutherland
Testing a compressor – oil, moisture and CO/CO₂/SO₂, Adrian Fairbrother
Pendant testing, Paul Jones
Mock-up bedhead tests – TU practice, ID and use of Servomex, Theresa Hughes
Terminal unit identity, Tim Sizer
17:00 End of day four

Friday 7 February 2020

08:45 Introduction to day five and welcome (Copthorne Hotel)
Theresa Hughes
QC (MGPS) and QA Specialist (NHS) Reading
09:00 Oxygen conservation
Steve Connew, previously Colchester Hospital University NHS
09:45 Novice QC (MGPS) – pressures of the job
Alistair Ellis-Jones, QC (MGPS) North East Wales NHS Trust
10:30 Refreshment break
10:45 MGPS line pressure
Why is it useful for the QC to know, examples of problems identified, include problems found with vacuum line pressure ID
Richard Sutherland, QC (MGPS) Omicron Ltd
11:45 Introduction to assessment
Tim Sizer and Theresa Hughes
12:00 Written assessment
13:00 Lunch
13:45 Question and answer session
Theresa Hughes, Tim Sizer and team
14:30 Round-up, feedback on assessment test and what happens next
Includes work based practice preparing for registration
Theresa Hughes
15:00 Closing summary, end of day five and course

Please note that, although the organisers remain devoted to the programme specified, they reserve the right to vary the programme in detail if required to do so by factors beyond their control.